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The success of the California prospectors for petroleum has stimulated work of the same kind in other sections of the Pacific Coast. In Washington explorations have been undertaken in a number of places, notably at Hoaquim in Chehalis County, at Tenio in Thurston County and at Rosalia in Whitman County. None of the work has produced any positive results as yet, and the attempt to start a boom in oil lands is evidently premature. Some of the parties engaged in the work have had experience in the oil-fields of the East, and they are generally inclind to withhold judgment until a good deal more work has been done.

The legal tangle in the American Smelting and Refining Company's case remains practically unchanged. On Tuesday of this week the Vice-Chancellor of New Jersey gave his decision vacating the temporary injunction against the increase of stock and the consolidation with the Guggenheims. The Vice-Chancellor held that the applicants had not proved their case, and that it did not appear that their interests would be injured by the consolidation. The applicants, however, took an appeal from this decision, and the temporary injunction will be continued until the case can be heard by the Court of Errors. This will postpone any settlement of the case for some time. The preliminary hearing before the Appellate Court is set for March 19th.

The outcome of the meeting of the anthracite miners is not certain. The large operators refused to come into a conference, but posted notices that the 10 per cent. increase in wages granted last fall would be continued during the coming year—from April 1st, 1901, to April 1st, 1902—and that local grievances could be arranged by special agreements. The convention now in session will hardly ask for a further increase in wages, and its demands will probably turn chiefly on the recognition of the union. The refusal of the managers to enter into conference will probably be made as strong a point as possible by the extreme party among the miners. The general opinion at present is that there will be no strike this spring; but it is hardly safe to make predictions until the convention has adjourned.

The two-hundredth anniversary of the establishment of a mining department by the Russian Government was recently celebrated. The department was established in 1700, by a ukase of Peter the Great, and has ever since been an important bureau of the administration. Some mining had been done before that date, and iron had been made in the governments of Moscow and Olonetz. Almost the first work done by the mines bureau was the establishment of a forge at Neviane, in the Ourals. This was shortly followed by other forges and blast furnaces. The State Mining College was founded in 1719. The first administrators of the mining bureau were army officers, and the bureau has always had a military organization. At present it exercises a close supervision over all mining operations in European Russia and Siberia.

The Canadian order-in-council, noted in our news columns, reduces the royalty charge on gold recovered in the Yukon Territory from 10 to 5 per cent. The reason given is that the policy of the Dominion has been to impose no more taxation in the Yukon than is necessary to provide for the expenses of government there; and that production has so increased that the 5 per cent. tax will be sufficient for that purpose. This is probably the case; and it is quite possible that the reduction may cause only a slight reduction in the amount collected, partly by encouraging mining, but to a greater extent because it will decrease the temptation to evade the collection of the tax. At any rate the lowering of the tax is sound policy, and will be very acceptable to the miners of the Yukon.

An interesting development is the plan now under discussion to furnish power to plants in and near the Staffordshire District in England. It is proposed to use Mond gas producers to convert into gas the slack from the coal mines. There are now immense heaps of this slack at the colleries, and they are continually increasing by the addition of waste from the mines. The gas will be piped from the producers to the different plants, where it will be used as fuel under boilers, or directly in gas engines. In some cases the gas will be used to generate electricity at the mines, and the power will be transmitted in that form. The projectors are now asking the necessary authority from Parliament, and it is said that they are prepared to go to work on a large scale. Their plans are similar to those which the "Engineering and Mining Journal" has often advocated, and we believe the result will be successful.

Some two years ago we noted an experiment made in the use of thin sheet copper, as a coating or sheathing for a passenger car, forming a substitute for the paint and varnish usually employed for the outside finish. The car in question has been in use on the New York, New Haven & Hartford Railroad, the use of copper having been suggested

by Mr. W. P. Appleyard, master car-builder of the road. The experiment has been so successful that the copper sheathing is now being applied to 29 new cars, built by the Wason Company at Springfield, Mass., for the Erie Railroad. The sheet copper used for the sides of the cars is 0.012 in. thick, that for the letter boards being 0.014 in., and for the hoods 0.051 in. The copper is fastened to the wood by screws. When in place it is washed with a weak acid solution which oxidizes the surface; this is done to secure a uniform color, as ordinary exposure to the weather would cause uneven oxidation and variations in appearance. A light coat of lacquer is also applied. The first cost is greater than that of painting, but experience with the New Haven car has shown that there is a considerable saving in the end, as a passenger car in service requires frequent re-painting, while the copper covering needs only cleaning and occasionally a coat of lacquer, the cost of which is small. Several other lines are now trying the copper covering.

The total production of pig iron in Germany in 1900 was 8.422.842 metric tons. The exports of pig iron—including scrap suitable for foundry or steel-makers' use—were 190,505 tons, and the imports 827,094 tons. The excess of imports was 636,589 tons, which added to the production, gives an approximate consumption of 9,059,431 tons. The production and consumption for four years past have been as below, in metric tons:

	1897.	1898.	1899.	1900.
Production	6,889,067	7,312,766	8,143,132	8,422,842
Excess of imports	332,099	135,417	440,599	636,589
Total	7,221,166	7,448,183	8,583,731	9,059,431
Increase over previous year	.....	227,017	1,135,548	475,700

The excess of imports over exports in 1900 was the largest on record. The increase of 475,700 tons in approximate consumption in 1900 over 1899 was a considerable one, though much less than the advance of 1,135,548 tons shown in 1899 over the previous year. The production of pig iron in Germany in 1900 was a little more than double that reported in 1887; while the consumption was more than double that of 1888. The activity of the home demand last year is shown by the small exports of pig iron. Exports were last year of steel and iron in finished form rather than of raw iron.

The collapse of the International Zinc Company, which is referred to in our news columns, seems to be complete. Such property as the company owns in Missouri has been put in the hands of receivers, and a number of those who bought stock are arranging an organization to try and save something from the wreck. About a year ago—in the "Engineering and Mining Journal," March 24th, 1900—we gave a clear statement of the company's position and properties, and warned investors that it was a good concern to keep out of. There is a peculiar state of affairs in this case, the so-called banking house which was apparently organized to float this and similar schemes, having gone out of existence. Stockholders who bought shares from this firm and on the faith of its advertisements and prospectuses can find nobody whom they can now hold responsible. Besides extensive advertising in this country the promoters tried hard to sell shares in England and France, though there the work was done by private circulars and personal canvassing, rather than by public advertising. We have reason to believe that the warnings of the "Engineering and Mining Journal" had some effect, and at least prevented the scheme from succeeding as it might otherwise have done. While a large amount of stock was unloaded on the public, the sales dragged toward the end and it required a great deal of effort to place shares, the promoters' profits being much diminished thereby.

MR. CARNEGIE'S RETIREMENT.

Mr. Andrew Carnegie has taken formal leave of his business associations and his fellow-townsmen of Pittsburg in a characteristic letter; and has left as a parting gift $5,000,000, the interest on $1,000,000 to be used in maintaining the libraries he has founded for their benefit, and the remaining $4,000,000 to constitute a fund for the assistance of old and disabled employees of the Carnegie Works.

We have heretofore referred to the methods by which Mr. Carnegie has attained his present position; and it is a distinct satisfaction to be able to point to a great fortune and a great business built up by the use of entirely legitimate and honorable methods. He has been able to carry out his plans and to succeed in his object of establishing works which cover and control the entire range of iron and steel manufacture from the mining of the ore and coal to the delivery of finished products of every kind. He has done this by keeping his object always consistently in view; by adopting promptly every improvement in machinery and methods; by constantly watching costs and planning to reduce them; and in every way by keeping in advance of his competitors. He has met competition, not by seeking to take unfair advantage, but by a resolve that his works should always be able to make steel better and more cheaply than those of his opponents. In this his business acumen and consistent method have enabled him to succeed. He leaves the Carnegie group of works not only the largest in existence, but admittedly examples of the latest and best practice in every way.

Mr. Carnegie's retirement from active business is to be regretted in that it removes from the iron trade a force which always worked for progress. The management of the Carnegie properties was never content with what was good enough; it must have the best possible; and it was always ready to discard yesterday's best for to-day's improvement. The results are visible in the works, which are without a parallel anywhere, and to which one naturally turns for examples of the latest developments in iron and steel metallurgy.

We wish Mr. Carnegie every possible satisfaction and enjoyment in his remaining years. We confess, however, that we are unable to think of Andrew Carnegie at rest. His personality has always embodied to us—and to all of his fellow-citizens—the idea of restless activity and progress. We shall, no doubt, continue to hear of him frequently—we hope, for many years to come.

MINING CONDITIONS IN THE TRANSVAAL.

The article on probable future mining conditions in the Transvaal, which we publish on another page, shows the views which are now spreading in England as to the results of the South African war. There is no question that the opinions there expressed are those entertained by many men who have been or are now interested in the mines. The British taxpayers will undoubtedly insist that at least a part of the cost of the war shall be assessed on the Transvaal; and there is nothing now in the country which is able to pay any considerable amount in taxes except the mines. For some time to come these payments will probably be fully equal to—if they do not exceed—the indirect taxation and the payments to monopolies under the Boer rules. Moreover, it will be a taxation which must be paid and cannot be evaded or decreased, as heretofore, by bribes to corrupt officials.

The only way which our London contemporaries can suggest to reduce expenses in mining is to cut down the wages of native labor. The question is whether this will be found feasible, or whether it can be done while keeping up the necessary supply of men. The average Kaffir or Zulu may not be a profound financier, but he knows the difference between £1 and £3 for his month's work. He is not forced to work in the mines, and he may refuse to do so at the lower wages. It is very probable that his condition may be improved by the regulations of the new government; but it will be difficult to secure the assent of all the mine managers to an agreement over the price of labor, or to prevent some of them from evading such an agreement, if made.

The main point just now, however, is to bring matters to a condition where it is possible to employ men at all; and it looks as if the labor question would be postponed for some time. The latest advices, however, which point to the probable surrender of General Botha, and the concession of terms upon which the Boers still in the field can come in, seem to indicate a nearer conclusion to the war than has recently seemed probable. At the best, if another month should see the end of hostilities and the opening of Johannesburg to the mine operators and their forces, it will take several months to put matters in order, and we cannot expect production to be resumed before the second half of the year.

The test of the labor demand will come then, and it is altogether possible that the rush for men will be enough to upset present calculations and demoralize the market for Kaffir labor. There will be, doubtless, much anxiety to get to work as soon as possible, chiefly for effect on the stock market, and manager's instructions will not permit them to deliberate. It is easier to arrange terms now than it will be to carry them out when the rush comes.

NEW PUBLICATIONS.

"Geological Survey of Canada. General Index to the Reports of Progress, 1863-1884." Compiled by D. B. Dowling. Ottawa, 1900; Government Printer. Pages, 476.

This index shows, by its large number of titles, the great industry of the Canadian Geological Survey, and the large number of reports and documents it has published. It will be of great service to those who want to consult the earlier reports, or to find information about any district in the Dominion.

"Information as to Mining in Rhodesia." London, England; issued by the British South Africa Company. Pages, 412; with map.

This volume contains a list of all the mining companies organized to operate in Rhodesia, giving in each case the officers of the company, the property owned, the work done and the results obtained. In many cases reports of mining engineers on the property are added. It is really a directory of the companies which are working, or propose to work, mines on the territory belonging to the British South Africa Company. The number of these is larger than most people suppose; though only a few are as yet able to return tangible results from their work.

"Society for the Promotion of Engineering Education. Proceedings of Eighth Annual Meeting, 1900." Edited by John B. Johnson, Albert Kingsbury and Henry S. Jacoby. New York; "Engineering News" Publishing Company. Pages, 380. Price, $2.50.

This volume, besides the reports of proceedings, committee reports, etc., contains a number of papers read and addresses made on questions which have arisen in the different branches of technical education. To many of these are appended interesting discussions of the topics treated. The members of the society have nearly all had much experience as educators, and their views are necessarily of interest and value to all who are concerned in the advancement of technical education.

"New South Wales. Report on the Hillgrove Gold-field." By E. C. Andrews. Sydney, N. S. W.; Government Printer. Pages, 44; with map and illustrations.

Hillgrove is one of the more important gold-fields discovered in New South Wales, and it presents especial interest to the geologist and the metallurgist on account of the peculiar nature of the ores. The gold is generally associated with antimony and tungsten ores are also found in considerable quantities. The first lodes found in the district were worked entirely for antimony, and the existence of gold was not proved until several years later. At present there are several mines in the district, but the problem of economical separation of the gold from the antimony is not yet solved in a satisfactory way.

"Geological Survey of Michigan. Geological Report on Monroe County." By W. H. Sherzer. Lansing, Mich.; State Printers. Pages, 240; with maps and illustrations.

This is one of the excellent series of reports on different sections of the State which have been issued from time to time by the Geological Survey of Michigan. Monroe County is of special geological interest, because it has numerous rock exposures and because in it are covered nearly all the rocks and surface conditions of the lower peninsula of Michigan. The reports also aid to throw light on the detailed history of the Great Lakes. In economic geology the county is noted for the Sylvania glass-sand, an extensive and valuable deposit; for its high grade limestone and strontianite. All of these are fully described.

"Engineering Chemistry; a Manual of Quantitative Chemical Analysis." Second Edition. By Thomas B. Stillman. Easton Pa.; the Chemical Publishing Company. Pages, 503; illustrated. Price, $4.50.

The first edition of this useful manual appeared early in 1897 and the fact that a second edition has been issued shows that the merits of the work have gained it many friends in spite of some defects. In a book of this sort that compresses the whole field of industrial quantitative analysis into 503 pages it is obvious that there must be omissions and that some methods are likely to be slighted. Such has been the case here, and it is to be regretted that in preparing a second edition Prof. Stillman did not revise or rather rewrite certain pages.

On the other hand the book contains chapters on "Blast Furnace Practice," by E. A. Uehling; "Determination of the Heat Balance in Boiler Tests," by Wm. Kent; "Carbon Compounds of Iron," by G. C. Henning and several others by prominent experts. These are of more value than considerable that appears in the body of the book.

The volume includes methods for determining the industrially important elements, coal and coke and water analysis, testing cement, clay and building stones, gas analysis and the determination of the heating power of gases, the analysis of iron and steel, soap analysis, the analysis of oils and paints and the examination of paper.

The book has almost nothing to say about electrolysis, except a description of a slow method for determining copper. The article on copper analysis says nothing about colorimetric determinations, and the only volumetric method given is that by potassium cyanide, nothing being said of the iodide method, so widely used in the West. There is, apparently, nothing about the volumetric determination of zinc. The article on the analysis of steel does not mention the methods for the precipitation of manganese as manganese ammonium phosphate. Other omissions might be cited, but these will suffice. The book is so clearly written and so many of the schemes of analysis are so admirable, that, as was said before, it is a pity the author did not revise and amend the work before allowing a second edition to go to press.

It is announced that on March 1st the "Iron Trade Review," of Cleveland, became the property of the Iron and Steel Press Company, which has just been incorporated under the laws of Ohio. The same company has also purchased "The Foundry," of Detroit, a well-known monthly publication which is devoted to the foundry industry. Both journals will have their publication office in Cleveland, and will be directly represented also through editorial and business offices in Pittsburg, Chicago, Philadelphia and Detroit. The editorial conduct of each will remain in the same hands as heretofore, and each will be published in the same form and at the same intervals as at present. The offices of publication of the "Review" have been removed from the Caxton Building, Cleveland, to larger quarters in the Rose Building. We congratulate our contemporary on the prosperity indicated by these changes, which has been well earned by the excellent work shown weekly in its columns.

BOOKS RECEIVED.

In sending books for notices, will publishers, for their own sake and for that of book buyers, give the retail price? These notices do not supersede review on another page of the Journal.

"California Miners' Association Annual, 1900." San Francisco, Cal.; printed for the Association. Pages, 256; illustrated.

"Australasian Statistics: South Australia." Compiled by the Government Statist of Victoria. Adelaide, S. A.; Government Printer. Pages, 56.

"Bases Fundamentales d'une Loi Universelle sur les Brevets d'Invention." By Henri Hauser. Madrid, Spain; Enrique Teodoro. Pamphlet, pages, 16.

"Tables of the Trade and Navigation of the Dominion of Canada for the Fiscal Year ending June 30th, 1900. Ottawa; Government Printer. Pages, 894.

"Traverse Tables: With an Introductory Chapter on Co-ordinate Surveying." By Henry Louis and George William Gaunt. London, England; Edward Arnold. Pages, 120.

"The Chemical Analysis of Iron." Fourth Edition. By Andrew Alexander Blair. Philadelphia and London; the J. B. Lippincott Company. Pages, 320; illustrated. Price, $4.

"Annual Report of the United States Life Saving Service for the Fiscal Year Ending June 30th, 1900." Sumner I. Kimball, General Superintendent. Washington; Government Printing Office. Pages, 464.

"Untersuchungen ueber den Einfluss Voraufgegangener Formaenderung auf die Festigkeitseigenschaften der Metalle." By Professor M. Rudeloff. Berlin, Germany; Julius Springer. Pages, 76; with diagrams and tables.

"Investigations of the Aquatic Resources and Fisheries of Porto Rico, by the United States Fish Commission Steamer 'Fish Hawk.'" George M. Bowers, Commissioner of Fish and Fisheries. Washington; Government Printing Office. Pages, 350; illustrated.

CORRESPONDENCE.

We invite correspondence upon matters of interest to the industries of mining and metallurgy. Communications should invariably be accompanied with the name and address of the writer. Initials will only be published when so requested.

Letters should be addressed to the MANAGING EDITOR.

We do not hold ourselves responsible for the opinions expressed by correspondents.

Briquetting Coking Coals.

Sir: Perhaps the "Journal," or some of its readers, can, in a few words, explain the difficulties, if there are such, which have prevented the briquetting of coking coal by raising it to the temperature at which it softens and then pressing it into shape, which it retains by the cohesion of the softened particles. Some years ago the writer, who was investigating the subject and was impressed with its desirability, made an application for a patent, only to discover that Sir Henry Bessemer, whose fertile mind ranged over a pretty wide field, had been there long before. His patent has long since expired, and it is not understood why further effort has not been made along that line. Coking coals, a number of them at least, soften at a low temperature, and while not becoming sticky, can be pressed into shapes which, on cooling, they quite fully retain. More than that, on heating again they do not soften readily a second time, as more or less chemical change seems to have taken place.

Charles Catlett.

Staunton, Va., March 6, 1901.

The Use of Iron in Assaying.

Sir: In your issue of December 22, 1900, page 734, under the head of Questions and Answers, there is a question in regard to "The Use of Iron in Assaying."

Pardon me if I take exception to the answer given there, "that the sulphide of iron formed is oxidized and is fluxed off with the silica, lime, soda, etc., present in the slag as oxide or silicate."

What takes place when iron is used in a crucible assay depends largely upon the amount of soda or other alkali flux used in the fusion.

Suppose one takes an ore consisting largely of FeS_2, carrying 39.56 per cent. sulphur and having a reducing power of about 8. That is, each gramme of ore will reduce 8 grammes of lead from an excess of litharge. Now fuse this in two crucibles for 40 minutes with the following charges:

(a)		Mix.	(b)	
Ore	1 A. T.		Ore	½ A. T.
Soda	30 grammes		Soda	30 grammes
C. P. litharge	30 grammes		Litharge	30 grammes
Glass	15 grammes		Glass	15 grammes
Iron nails	4		Iron nails	4
Borax glass cover	10 grammes		Cover borax glass	10 grammes
We will obtain the following results:				
Slag	60 grammes		Slag	65 grammes
Matte	23½ grammes		No matte	
Lead	24½ grammes		Lead	26½ grammes
Crucible and iron and flux before fusion			685 grammes	662 grammes
Crucible and iron and flux after fusion			665 grammes	642 grammes
Loss			20 grammes	20 grammes
Iron nails before			64 grammes	63 grammes
Iron nails after			43 grammes	49 grammes
Loss			21 grammes	14 grammes

The reason we do not obtain a matte in (b) is owing to the ratio of the soda to the ore used. If the soda in (a) is raised to 60 no matte will be obtained.

The slag from (a) ran 6.73 per cent. sulphur, practically all as sulphide; that from (b) ran 7.63 per cent. sulphur, practically all as sulphide. When the slag is treated with HCl, in both cases it gives off H_2S strongly.

A large percentage of it is soluble in water. In fusion (a) about 8 per cent. and in fusion (b) about 14 per cent. of the sulphur disappeared, probably as SO_2, the remainder is undoubtedly combined with the iron as sulphide of iron ore as a double sulphide of iron and soda, which is held in solution by the large excess of the alkali flux used.

I have seen many assayers using iron as a desulphurizer and obtaining mattes constantly and never knowing why they were obtaining them, and then turning about and saying the iron method was no good. Of course it was no good, if they got a matte and the matte carried precious metals.

Richard W. Lodge.

Boston, March 6, 1901.

Combinations of Capital.

Sir: The last paragraph of the editorial on the United States Steel Corporation in your issue of March 2d, is my only excuse for trespassing on your time and patience, but, as "one of your readers," I am more than pleased to learn that you intend discussing at an early date the important question of great combinations of capital. Great combinations seemingly are the logical results of modern industrial development. No matter what the outcome of those at present organized —and some of them are apparently engaged in family rows just now— they have come to stay. Financial requirements will place their control in the hands of a few men, giving these a tremendous power. Will that power be abused? Will not self-interest, as well as other motives, tend rather to its exercise for the general good of all interested in the organization, and of necessity for that of the community? Those given control will be trustees in fact, even if not in name, since they can hardly be absolute owners of a majority interest in such corporations. As to wage earners, of whatever class, will not the outcome be a gain? Fairly steady employment, even at slightly reduced wages—and it is by no means certain that wages will be lessened as a result of combination of capital—would be one thing, and the possible transfers by corporations of members of any class of employes except common laborers from one point to another, as fluctuations in business may determine, is not inconceivable, and might be to the advantage of both corporation and wage-earner.

Trustees occasionally default, the most conscientious managers sometimes make mistakes, employees frequently have real grievances, and all people, at times, believe that whatever is, is wrong. Still, the problems to be solved by great combinations, on account of their very magnitude, perhaps, seem to be those that appeal most powerfully to the peculiar genius of that "definite, coherent, heterogeneity"—the American people.

However, I did not start this to air my own crude notions, but to suggest that you, in person and by position, seem peculiarly fitted to write an article on this subject—the good and bad points, general and special, and just and wise means of governmental restraint and regulation, without officious intermeddling or hasty and hurtful legislation —that would be particularly well timed, of interest and profit to your own readers, that is, readers of the "Engineering and Mining Journal," and also command the attention and consideration of that portion of the daily press that has the greatest permanent influence in guiding and aiding the formation of general public opinion. I trust that others of your readers may have urged you to essay this same task.

William R. Boggs, Jr.

Winston, N. C., March 6, 1901.

Electro-Silvered versus Plain Copper Plates.

Sir: In your valuable "Journal" of February 16th, page 210, I notice a very interesting article styled "Electro-Silvered versus Plain Copper Plates," by Edward Halse. This seems to have been a very thorough and carefully executed test of the plain copper and silvered plates, and on its face seems convincing, but the question is still an open one, as Mr. Halse has failed to give an analysis of the plain copper plates used in his tests. Without this analysis we cannot judge whether a perfect or an imperfect grade of copper was used. The difference in economy between plain copper and silvered plates will depend entirely upon the purity of the copper used in the plain plates.

It is well known that all commercial copper carries a small amount of sub-oxide of copper which is evenly distributed through the metal. The amount varies considerably according to circumstances and care in refining. There is also an additional amount of oxygen taken up when the plates are annealed, and unless great care is exercised in annealing some portion of the plate is liable to become overheated and highly oxidized. I judge that Mr. Halse's plain copper plates must have contained more than an average amount of oxygen, as he speaks of their becoming tarnished frequently. Under the circumstances in which the plates were used they could not become tarnished unless they contained an oxide of copper. If there were patches or portions of the plates which tarnished more frequently than other parts, it is certain that the portions which gave the most trouble by tarnishing had been overheated to some extent in annealing.

Mr. Halse says: "It should be mentioned here that much more mercury was used with the plain copper than with the silvered plates, which accounts for a good deal of the amalgam found in the mercury traps and on the blankets, etc." If a plain plate of copper is highly oxidized there are millions of points of sub-oxide of copper exposed on the surface of the plate and the mercury will not amalgamate with this oxide. The who surface of the plate may be covered with mercury, but the attachment is weak and is liable to break away when it would hold perfectly were a higher grade of copper used. There is no doubt that other impurities found in most commercial copper may have some effect on the value of the metal for amalgamated plates, but the chief impurity which causes the trouble is oxygen.

A deoxidized copper plate can be produced which is equal in every particular to a silvered plate, I think. It could be amalgamated just as quickly and perfectly as any silvered plate and would remain bright and free from tarnish until completely worn out.

It is understood by all men who work in gold mills that the softest copper is the best for amalgamated plates; everything else being equal, the copper which carries the least oxygen is the softest.

James R. Cooper.

Denver, Colo., March 1, 1901.

GOLD IN SERVIA.—From an account of the gold-bearing regions of Servia published by Dr. Antula, Geologist of the Servian Mining Department, it appears that all the rivers and streams flowing from the Deli Jovan Mountains into the Timok River carry gold. The alluvial deposits and hilly terraces are not very rich, and it is only the portions situated immediately over the stony gabbro soil that are of any importance. The euphotide soils of the Sikolska and Salaska streams are the best known for their nuggets, which are also found along the Glogovacka River in the mass of white clay associated with gabbro shingle. The country in the region of Deli Jovan is the only part of Servia where deposits of gold have yet been found to exist.

Las Esperanzas Mines, Mexico.

GAS ENGINES IN ENGLISH IRON WORKS.—The London "Engineer" reports that at a meeting of members of the South Staffordshire iron and coal trades held in Birmingham recently with reference to the scheme for supplying Mond gas in the district, Sir Alfred Hickman said, unless he was misinformed as to the results obtainable, he should in the course of a very short time scrap the whole of his steam engines and boilers, though they were put down at very great cost, and substitute the Mond system. The gas produced by this process was not only suitable for driving but for heating. The cost of fuel as compared with the old plan of using coal in the mill furnaces was only one-fourth, and there was a great increase in the yield, as there was no oxidizing flame. Besides, there was a very large saving in the wear and tear of the furnaces themselves and in labor, while the quality of the material produced was greatly improved.

VENTILATION AND HEATING COMBINED.—Experience has clearly demonstrated that in this climate no system of ventilation can be successfully operated by itself and independently of the method of heating that may be adopted. It is, in fact, a vital element of success that the two systems be intimately combined, for they are clearly independent, and when properly applied are so interwoven in their operation and results, that disunion is certain to bring about failure. For the purpose of ventilation, the fan was first applied upon a practical scale about the middle of the past century, but only to a limited extent, and it was not until the fan and the steam heater in marketable form were introduced by B. F. Sturtevant, of Boston, Mass., that the so-called "blower system" became a reality. This system is at once practical, successful and economical; for, air being the natural conveyor of heat, it may, when properly warmed and supplied, perform the double office of heating and ventilating. As applied, the Sturtevant system forced the air into the apartment by the pressure or plenum method.

LAS ESPERANZAS COAL MINES, MEXICO.

Written for the Engineering and Mining Journal by Edwin Ludlow.

The industrial development of the Republic of Mexico, under the enlightened administration of President Diaz, has been so extremely rapid in the last 10 years that the consumption of coal and coke has increased enormously, and Mexico has become one of the large foreign markets for United States coals. The coal and coke is mostly carried from Virginia and Pennsylvania by vessel to Tampico and from there over the Mexican Central and the Monterey & Mexican Gulf railroads. A large tonnage of Indian Territory coal and coke is also brought in by way of Laredo on all-rail shipments, and there is also considerable coal of a lignite character mined at Laredo that finds sale at local points on the line of the Mexican National. The coal-fields of Mexico themselves have not been developed to a great extent, with the possible exception of the coal from the Fuente Mines, near Eagle Pass, which is more of a lignite in character and similar in many respects to the lignite mined at Laredo. This bed of lignite seems to follow on both banks of the Rio Grande River. The next coal-field known, going south on the Mexican International Railroad, is in the valley of the Sabinas, where the Mexican International Company has been working, through shafts and slopes, for the last 10 years; though the coal beds are thin and badly inter-stratified with slate, the output of these mines has been used very largely in the locomotives of the International. They also have at that point about 120 coke ovens, for the output of which they have sufficient sale among the copper smelters in the northern part of the Republic. In the State of Sonora large fields of a good grade of anthracite coal have been reported, but as they are long distance from any railroad, no active development work has ever been done there. In the southern part of the Republic there have been various discoveries of lignite, but in nearly every case they have been in a very rugged country and the quality of lignite did not seem to warrant the building of any railroad connection with them, so that there has been no active development in any of these fields.

In the summer of 1899, Prof. Gardiner, of New York, was called upon to examine a tract of land lying in the next valley south of the Sabinas Valley, near the station of Barroteran, 88 miles from Eagle Pass. He found that this tract of land contained a bed of coal running from 6 to 8 ft. in thickness, and that the prospecting work that had been done on it, both with a diamond drill and shafts on the outcrop, showed that it contained about 50,000,000 tons of workable coal, lying at an inclination of from 8° to 15° and of the following sections from the top: 10 in., coal; 2 in., bone; 2½ ft., coal; 1 ft., fire-clay; 3½ ft., coal. The analysis of this coal showed as follows: Moisture, 2 per cent.; volatile matter, 20.5; fixed carbon, 67.7; ash, 9.8 per cent.

Prof. Gardiner on his return to New York organized the Mexican Coal and Coke Company and purchased the property containing this local basin of coal. Having obtained the necessary railroad concession active work was begun on November 5th, 1899, and has been prosecuted diligently ever since. The development work accomplished during the 14 months that this property has been opened has consisted of sinking three slopes an average distance of 1,500 ft. from the surface, two of these sending their coal over one tipple; the completion of two modern tipples, with a capacity of 3,000 tons each; the erection of the necessary machine shops; the development of a water supply from a spring 3½ miles distant that has a flow of 150,000 gallons a day; the completion of 50 coke ovens, with a Campbell washer having a capacity of 1,200 tons a day; and the connection of all these operations with the Mexican International road at the station of Barroteran by the building and equipping of 10 miles of standard gauge road. The mines began shipping coal in June, 1900, and the shipments gradually increased until for the month of December, 1900, the output reached 15,000 tons. Ten of the coke ovens were fired up on January 1st and the balance of the first 50 about February 1st; and the work of building the next 50 ovens is being pushed rapidly.

The consumption of coke by the large smelters in the Republic of Mexico, which are now obliged to obtain almost all of their supplies from the United States, will easily absorb the output of 500 ovens. The coke that is now being shipped, owing to the washer not being as yet completed, is made from unwashed slack and gives the following analysis: Water, 0.5 per cent.; fixed carbon, 84.4; ash, 14.7; volatile matter, 0.8 per cent. An analysis of the ash shows: CaO, 2.5; SiO_2, 59.4; Fc, 6.7; sulphur, 1.8 per cent.

With the completion of the washer the amount of ash will be reduced to about 8 or 9 per cent., and as the coke shows a fine structure and is of sufficient strength to bear the burden of a heavy furnace charge, there should be no difficulty in making a coke entirely satisfactory for all smelting purposes in the Republic.

The coal in this basin belongs to the cretaceous period and appears, from all the prospecting done, to be extremely regular in its formation. So far there has been no other similar deposit of coal found anywhere in the Republic. As can be seen from the analysis of the coal, it is well adapted to steam purposes and is now used exclusively by the Mexican Central between Torreon and the City of Mexico. It has also stood the test of the puddling furnaces at Durango, and the iron that is now being made from the mountain of ore there is all being puddled with Mexican coal; the results obtained being fully as good as they were formerly able to get with the imported coal.

COKE OVENS AT LAS ESPERANZAS MINES, MEXICO.

It is the intention of the company to push the development of this field to an output of 5,000 or 6,000 tons a day, the slack being largely used for making coke and the lump coal for the steam users scattered over the Republic from Chihuahua in the north to the City of Mexico in the south. It will be, of course, a year or two before these mines can be brought up to their maximum output, but the development of this property will be a great boon to the manufacturing industries of the Republic, giving them a reliable source of fuel, free from the delays and expenses attached to the importation of coal from the United States by vessel through Tampico.

COKING COAL FIELDS OF SOUTHERN FAYETTE COUNTY, PA.

Written for the Engineering and Mining Journal by W. G. Irwin.

Some time ago a brief reference to the development of the Masontown or New Klondike coking field was made by the writer in these columns. Since that time there have been many new developments in this important new field. To-day more than 5,000 workmen are employed in the mines and about the coking plants which have been developed and put into operation since July, 1899. But this is only the beginning. Lands which only a few months ago were selling for $100 per acre are now commanding five times that figure, and are finding a ready sale.

This new coking field lies between Uniontown at the southern end of the main Connellsville region and the West Virginia line, and is bounded on the east by the western foothills of the Alleghanies, and on the west by the Monongahela River. It comprises about 100 square miles of excellent coking coal lands. The first company to begin operations in this new field was the Eureka Fuel Company, a concern organized by the Federal Steel Company for the purpose of furnishing fuel for its furnaces. For some time attempts were made to secure coking coal lands in the main Connellsville region, but this was not possible, for the old concerns in that field had already come into control of all

available territory. For a time the company prospected in different parts of Western Pennsylvania, and finally decided to develop the section now included in the New Klondike Field. The first surveys here were made in July, 1899, and a month later the work of opening mines and constructing ovens was begun. The coal of this field is about 9 ft. thick, and is reached by drift, slope and shaft mines at different points at a depth varying from 250 to 650 ft. The Eureka Fuel Company first established mines and ovens at Leckrone. To-day there are two drift mines and 400 bee-hive ovens in operation at this place and the town has a population of several thousand. This company also operates one slope mine, two drift mines and 400 ovens at Footdale, a new coking town. At Buffington the same company has a shaft mine 400 ft. deep and 400 ovens in operation. The American Coke Company is another of the extensive concerns operating in this new field. It is the fuel branch of the American Steel and Wire Company. At Gates this company has one 250-ft. shaft, at Lambert a 600-ft. shaft and 500 ovens, at Edenborn a 400-ft. shaft and 500 ovens. The Fayette Coal and Coke Company is an independent concern which has developed the new coking towns of Shamrock and Griffin. At the former town this company has a drift mine and 100 ovens. The Riverview Coal Company operates a mine at Cats' Run, and the Bessemer Coke Company, which has been operating ovens in the main Connellsville Region, is now operating in this new field. The Eureka Fuel Company is now opening new mines and building new coking plants. Other concerns are also preparing for extensive operations. The coking concerns have erected permanent buildings for their workmen, water supply reservoirs have been constructed and electricity is generally used in mining and coke oven operation.

Adjacent to the New Klondike Field is another newcomer in the domain of coal and coke. This is Revere, at which place the W. J. Rainey Company has during the past year opened new mines and established 200 new ovens which were fired the first week in February. Two hundred additional ovens are to be built here at once. Revere is 2½ miles south of Uniontown and near the southern outcrop of the main Connellsville coking coal seam. There have been much railroad building in these new coking fields during the past year, but many of the concerns in the New Klondike Field are preparing to ship by water down the Monongahela River and they will thus have the advantage of the water route.

TAXES AND LABOR IN TRANSVAAL MINES.

The correspondent of the London "Economist"in Johannesburg, who is usually well informed, writes as follows of the prospect for reducing working costs in the gold mines of the Transvaal:

As soon as there seems any good reason to hope for an early settlement of affairs in the Transvaal the holders of mining shares will begin to make calculations and comparisons to find out whether there is, after all that has been said for and against, a likelihood that working costs are really going to be lower than they were in 1898. First, let such people clearly remember one fact, which is this—The mining industry was never too heavily taxed. The fault was that the money raised by taxation (direct or indirect) was not properly spent. If the £3,500,000 or so paid away by the mines in taxation in 1898 had been devoted in due proportion to (1) the ordinary governmental expenditure of the State, (2) works to assist the opening up of the country, such as roads, bridges and irrigation, (3) outlays to benefit the mines, such as an organized native labor bureau, a coal railway along the main reef, a water supply from the Vaal River, all of which would have returned good interest on the capital outlay—had such a budget for the State revenue been proposed, all thinking men interested financially in the country would have been satisfied.

Of course, as we all know, the Transvaal Government proposed no such scheme. Indeed, it could not have done so, because much of the taxation never passed through its hands at all, but went direct into the pockets of shareholders in the concessions and other parasites. Still, the fact remains that during that and other years the mines did flourish under taxation of several millions, and even then the gold industry was not more heavily taxed than it is in any English colony. Secondly, let shareholders remember as a cardinal fact that indirect taxation will in the future be done away with, but only to be replaced by direct taxation. In the past a resident of Johannesburg may have had an income of £20,000 a year (many of them had £30,000), but the only tax he paid to the State was a poll-tax of 18s. 6d. He may have suffered, certainly, by indirect taxation, but not, I think, to the extent that a graduated income-tax would have hit him. In the same way a mining company earning £300,000 a year, with a life of 20 years (and there are a good many), has only (and that quite recently) had to pay a tax of 5 per cent. on profits. Here again there was a lot of indirect taxation, but will not this certainly be replaced in future by a graduated tax on profits, together with the enforcement of the tax on mynpachts?

It will be a fine thing, certainly, to see the dynamite and railway monopolies done away with, and an end made of all insidious taxation; but it is very certain that direct taxation will be brought in which will take just as much, if not more, money from the mines, and shareholders will find that their last state is not any better than their first.

If, then, we take it for granted that the new Government of the Transvaal, whether to keep up a big military garrison, to pay interest on a war indemnity, or to develop the agricultural and pastoral resources of the country with greater energy, will require from the mines as much taxation as they paid before the war, how are working costs really going to be lowered? The cancelling of the dynamite monopoly and of the railway monopoly (which principally effects the price of coal) will release big sums of money hitherto paid away in this species of indirect taxation; but, as we have seen, these same sums will now be paid in direct taxation, either on the gross-output of gold or as income tax or profits. Machinery, mining stores, or coal at the pit's mouth will not be appreciably cheaper. The salaries of directors, managers, engineers, secretaries and their respective staffs, will be no lower. Insurance and freight of bullion will not be reduced. General expenses of whatever sort, so far as I can see, will remain where they were before. White labor will be dealt with tenderly; a great rush of men to Johannesburg from all over the world may tend, by competition, to reduce the cost of skilled labor here and there, but, as a rule, the white labor in use before the war was of a superior class, and the tendency to pay a good wage to a good man will, no doubt, still maintain.

So far, then, there is going to be no reduction in working costs. The only other item on which there is a heavy outlay by the mines is native labor, and under this head a big reduction can, and doubtless will, be made.

There are 4,000,000 natives in British South Africa, and probably several millions more in Portuguese Mozambique, south of the Zambesi. Among all these the prestige of Britain is now great. When the mines are again open the old workers will return; many more will come to work out of curiosity; and knowing, too, that the chance of ill treatment by petty Boer officials on the road is at an end, and the chiefs, thinking it to their advantage to cringe to the paramount power, will be eager to assist the labor agents of the Chamber of Mines and the Government. On the whole the supply of natives, which will then be organized in a way that was never before possible, will probably be equal to the demand.

In 1898 the average rate of pay was over £3 a month, exclusive of food and shelter, and in addition each mining company paid away thousands a year in premiums to labor agents. This was bad enough; but when we reckon the losses to the mines by desertions, by drunkenness, and by sickness, caused by exposure while traveling to the Rand, we can clearly see that the total cost per native cannot have been, and actually was not, far short of £5 a month. This cost was admittedly ridiculous, and at last an effort was made to reduce it.

The Chamber of Mines bound all the companies not to outbid each other for gangs of natives as they arrived; it also recognized as far as possible the sources of supply, and it reduced the rate of pay to an average of about £2 10s. instead of £3, and the aggregate cost to perhaps £4 10s. That was in 1899, before the war. Now, what is to be done? We hold the country; we can organize the labor supply; we can erect shelters along the roads the natives travel; we can prevent them being molested by officials or by touts, as they were in the past; we can bring in an efficient pass law ensuring no loss by desertion; we can do away with premiums—except to official agents; we can control the sale of liquor; we can ensure regular work every day of the week; we can contract with the native for a longer period; we can reduce sickness to a minimum; we can use hand labor instead of rock drills in narrow stopes; and we can expect a supply in excess of the demand, so that the mines need not outbid each other. I venture to say that these items, which come under the head of organization, and in no sense affect the natives' wages, will mean a saving in the future of something like £1 a month per native employed in each mine.

Finally, having seen how much is likely to be saved by effective organization, we must consider how much can be struck off the actual wage itself. Before the war the average rate of pay was about £2 10s., in addition to food and shelter. This is a much higher rate than is paid to natives elsewhere in South Africa, and probably higher than anywhere else in the world.

Going and coming from the Rand, over great distances, the natives were subjected to all sorts of troubles—ill treatment, robbery, exposure, want of food and water—and to induce them to leave their homes a tempting wage had to be offered. In future their path to and from Johannesburg will be made smooth. Then, too, there used to be great competition for their labor. This forced up prices to an unnatural height; but in the future we hope that the supply will so exceed the demand that the wage will, even automatically, return to its normal figure—to what it was in the early days of the Rand. In Natal, a youngster receives about 8s. a month; even to-day, in that colony, a grown native considers anything over 15s. a wage to be proud of, and the Boers, many of whom retain devoted native servants for year after year, do not even pay so much as this.

Then, again, it must be remembered that the natives got no real advantage from a wage of 50s. or 60s. A few shillings each month were spent on clothes, colored handkerchiefs, hand mirrors, sardines, sugar, or butcher's meat, but at least half of the whole—the unearned increment, so to speak—was spent on foul, poisonous liquor, which only did harm to the native himself, the company, the industry, and the State.

To return, then, to our subject. The new Government, I understand, has employed large numbers of natives at the standard price of 30s. a month, thus setting a precedent, and I venture to say that if the mines were to fix on a monthly wage of 30s., as against 50s. before the war, no real harm would be done to the black man. And such a reduction would represent a saving of several shillings on each ton of ore crushed.

Against this there are, I think, only two facts which must be noted. The first is that most, or at least half, of the natives will still come from Mozambique, which does not belong to England. These natives are by far the best workers underground; they have always formed the backbone of the Rand labor supply, and they are not likely to offer serious objections to the reduced wage. Indeed, we must have these men at the Rand, but should the Portuguese levy a heavy tax on them leaving Mozambique territory, the payment of this tax would eventually fall upon Rand shareholders.

The second point is that the Zulus, the Basutos, and especially the Fingoes, and other natives under our own control, who have better brain power than the Mozambique natives, are likely to offer objection to the lower wage, and their attitude will have to be watched carefully for some time.

It is here, then, in the organization of native labor, and in the reduction of native wages, and here only, that a saving can be made. That is the case as stated from the cold, business point of view. And if the interest on the war indemnity to be levied on the Johannesburg mines does not absorb such a saving on native labor, it will be available for dividends.

THE BALD BUTTE MINE, MONTANA.

We have often urged the publication of descriptions of property in the reports of mining companies. In the report of Mr. B. H. Tatem, manager of the Balt Butte Mining Company of Montana for 1900 we find so good a description of the property and its exploitation that we reproruce it below, hoping that others will take pattern from it.

The mining ground owned by the company consists of the Albion, Sterling, Kenawa, Genesee, Black Douglas, Easter, Occidental, Langton, Lillie, Griff, Dr. Parker and Old Chip lode claims; the Sterling, Genesee and Dr. Parker mill sites, aggregating an area of 176.95 acres; also the Dog Creek, Cold Spring, Butler Bar, Penobscot and McNamar placer claims, aggregating an area of 248.88 acres, a total of 425.83 acres, all of which is secured by United States patents. There are no conflicts or litigations as to titles and no adjoining claims through which controversies are likely to arise. These claims have all been more or less exploited independently, but the great bulk of development has been upon the four first named. The principal improvements at the mine consist of ore bins with a capacity of 1,100 tons, to which the ore is trammed by mule trains from tunnel No. 2, and after passing through a Comet crusher, is discharged into them, from whence it is hauled to the mill. It has been found much better to crush the ore at the mine, than, as in the beginning, at the mill, although the Blake crusher is still in position at the mill in case of an accident to the Comet crusher, which has not yet happened. In addition to the bins, there is an assay office completely equipped for ore assays and determinations, a blacksmith shop fitted, not only for mine work, but also for welding of stems and doing nearly all of such work as is required at the mill, and a drill shop for the setting of diamonds and the storage of cores taken from the drill holes. The working levels of the mine are equipped with electric light, blowers, hoists, pump and diamond drill having a boring capacity of 500 ft., all of which are driven by electric power generated at the mill, where the only steam engine the company uses is installed.

The mill, as the most expensive of the improvements, may be deemed worthy of a general description. It is what is known as a gold mill with Frue vanners and was as thoroughly built and erected, from first to last, as was known how to do it. Since it started it has not stopped for a single day by reason of any breakdown or defect, it will be evident that the makers (Fraser & Chalmers) did their work thoroughly and that the erection was not slighted, also that care has been exercised by those whose duty it has been to run it, and it seems as though it is good for some years to come. It is nearly automatic in its operation. the ore as it is brought from the mines being dumped into the storage bins at the top of the mill, after which it is never touched by hand, sliding by gravity to eight Challenge feeders, each of which delivers a continuous supply to each battery. The 40 stamps (750 lbs. each) are arranged as usual in eight batteries, the mortars being lined with silver-plated copper plates, with large silver-plated tables, with two Frue vanners supplementing each table, or 16 in all. It is driven by a 12 in. 18 by 30 compound condensing Corliss engine, whose reserve of power is transmitted electrically to the mine, and is lighted by electricity. In the engine room is a large lathe upon which nearly all of the repair work is done while the mill is running. There is also a small engine in place capable of lighting the mill and running the lathe in case of accident to the main engine, which as yet has never happened. It also contains an amalgam pan for cleaning the amalgam, and sampling machinery for preparing large mine samples for assay, while the retort is located in a small building at a safe distance. Water pipes running over the mill building and fire hose are provided, while an insurance of $45,000 is also carried.

The cost of all equipment at mine and mill to January 1st, 1901, amounts to $110,664. The amount expended for development work to January 1st is $137,467, and it is needless to say that it has all been paid out of the profits of working. At above date it amounted to 16,288 ft. of tunnels, levels, shafts, winzes, up-raises, cross-cuts, etc.

Since the building of the large ore bine at the mines in 1897, all the mined ore has been dropped to tunnel No. 2, which is the lowest possible opening to the surface, and from there trammed to the bin. During the past year in cross-cutting north from the main vein in tunnel No. 1, an expected vein of exceptionally good ore was cut and has been since followed for about 350 ft., with both headings still in good ore. From this new branch has been taken about one-third of the ore milled during the past five or six months. The company is driving a drill hole north from the end of this crosscut with a reasonable probability of finding another vein, which there is some reason to expect. It also has crosscut the new branch in both the 500 and 600 levels, and drifted upon it for about 200 and 100 ft., respectively, with all headings still in ore. Wherever exploited, this vein has shown unusually high values and not more than one-third has been used in making the very pleasant returns of the last half-year.

In 10½ years of operation the mine has yielded 195,183 tons of ore, from which bullion amounting to $1,906,010 and concentrates of a value of $137,400 have been obtained; a total of $2,043,410, or $10.47 per ton. Up to the end of 1900 the company paid $922,148 in cash dividends and a stock dividend of $14,604; a total of $936,752, or 374.7 per cent. on the stock. No year passed without a dividend. For the accompanying photograph of the mill we are indebted to Mr. R. H. Floyd-Jones, of Helena, Montana.

BALD BUTTE MILL, MONTANA.

A LARGE OPAL.—What is said to be the largest and finest opal ever found in Australia, has been presented by its owner, Mr. Maurice Lyon, to King Edward VII., to be added to the British crown jewels. The stone is about 2 by 1½ in. and weighs 250 carats. It is remarkably pure and brilliant. In size and other qualities it is exceeded only by the great Hungarian opal, the property of the Emperor of Austria.

GERMAN IRON ORE MINING IN SPAIN.—A German mining syndicate has been formed and has taken possession of a group of iron mines in the Province of Lugo, which the managers have begun to work, making connections with the inland mines by a series of aerial ways to a depot on the Bay of Vivero, alongside wharves at which steamships can load. The ores are said to carry from 50 to 57 per cent. metallic iron. They are above the Bessemer limit in phosphorus, but are suitable for making basic pig iron. About 125,000 tons will be mined this year.

TELEPHONE ENCROACHING ON TELEGRAPHY.—Although the telephone is still far from perfection, it is constantly cutting into telegraph business on longer and longer distances. Recently it was reported that the Northern Pacific Railway Company was considering the feasibility of substituting through telephone service for its telegraph line. This, if carried into effect—which is not assured—would be an extreme instance of what is being done in all large manufacturing and commercial establishments. When in good working order the telephone saves time over the telegraph and is more satisfactory. Submarine telephony across the Atlantic is promised, and whether the proposed systems are wholly practicable or not, it is certain to come some time. Meanwhile the long-distance telephone is obviating much railroad travel, thus saving time and expense.

ABSTRACTS OF OFFICIAL REPORTS.

Pittsburg Coal Company, Pennsylvania.

This company, formed in 1899, is the consolidation including nearly all the coal mines in the Pittsburg District known as the "railroad mines"—that is, the mines shipping their coal by rail, as distingushed from the "river mines," shipping by the Monongahela and Ohio rivers. The capital includes $32,000,000 preferred stock, of which $29,701,200 has been issued; $32,000,000 common stock, of which $30,030,700 has been issued. There are also mortgages amounting to $1,271,477 on various properties owned.

The report for 16 months from the organization of the company to December 31st, 1900, does not state the gross earnings, nor the quantity of coal mined. The net earnings were $5,480,690, against which charges were: Royalty fund, $826,915; depreciation of plant and equipment, $411,685; dividends, 7 per cent. on preferred stock, $2,074,709; total, $3,313,309, leaving a surplus of $2,167,381. The royalty fund is a sinking fund for the purchase of new coal lands, all coal mined being represented by payments to this fund at the rate of $400 per acre.

The report of President F. M. Osborne says: "The results of the latter months of our operation prove that we have made substantial progress in the equipment and operation of our mines, and that our marketing contracts are now on a more satisfactory basis. We hope and confidently expect to enter upon broader markets, believing that it is to the best interests of this company, wherever practicable, to deal directly with the consumer. In this connection the opening up of the export business will undoubtedly furnish an opportunity to this company to find large markets not now supplied with American coal. From reports received on our export shipments it is plain that Pittsburg coal is especially adapted for exporting on account of its hardness and similarity to the Welsh and English coals.

"By the purchase of so large a number of properties in this district we have been enabled to select those offering the best conditions for economical operation, in a number of cases taking adjoining properties which in the past were operated in a competitive way, under expensive conditions.

"An element of gain to this company during the period covered by this report not included in the accompanying analysis of earnings, yet giving substantial and satisfactory increase of value to our capital stock, is to be found in the large appreciation of value of coal lands owned by the company. In addition to the original purchase from the former operators, we have acquired 51,048 acres of coal and 2,296 acres of surface since the organization of the company. These purchases were made at the average rate of less than $100 per acre. At ruling prices of coal lands to-day the same lands would average about $200 per acre.

"I would call especial attention to our royalty fund for the acquisition of new coal lands, and state that, while our purchases during the past 16 months averaged in cost less than $100 per acre, as indicated above, our allowance to royalty account has been at the rte of $400 per acre—charged to operating cost."

National Lead Company.

The brief report of this company, which is a large manufacturer of white lead and other lead products, covers the year ending December 31st, 1900. The net earnings for the year were $1,076,441; balance from previous year, $1,324,841, making a total of $2,401,282. From this dividends were paid amounting to $1,043,280, of 7 per cent., on the preferred stock, and $149,054, or 1 per cent. on the common stock; a total of $1,192,334, leaving a balance of $1,208,948. Gross earnings and expenses are not given. The stock is $15,000,000 preferred and $15,000,000 common; of which there remains in the company's treasury $190,600. The balance sheet at the close of the year was as follows, compared with that for 1899:

	1899.	1900.	Changes.
Plants	$23,476,974	$23,419,631	I. $2,657
Other investments	587,911	1,230,521	I. 642,610
Stocks on hand	5,122,760	5,682,718	I. 559,958
Treasury stock	190,600	190,600	.....
Cash and receivables	1,972,980	2,482,487	I. 509,507
Total assets	$31,351,225	$33,065,957	I. $1,714,732
Capital stock	$30,000,000	$30,000,000	.....
Surplus	1,324,841	1,208,948	D. $115,893
Mortgages	12,603	12,603	.....
Notes and accounts payable	13,781	1,844,406	I. 1,830,625
Total liabilities	$31,351,225	$33,065,957	I. $1,714,732

President L. A. Cole's report says: "A decrease in net earnings was due to a restricted volume of business consequent on high prices and the limited building done early in the year. The loss of customary spring and summer tonage was only partially recovered by increased activity in the fall. Attention was called in the last annual report to the policy of the company as concerned the extension of its business. The work then in progress became productive in September and is justifying the investment. The separate company under whose organization this specific work has so far progressed, and whose stock is owned by this company, has been advanced by us $1,139,168 for this purpose, which sum is charged to other investments account. In part payment we have received from them $1,000,000 first mortgage 5 per cent. gold bonds, being the entire issue on the property in question, the payment of which both as to principal and interest is guaranteed by this company. Of this issue $50,000 have been sold at par and the remainder are in the treasury. It will be noted that assets have increased in the several items of stock on hand, cash and accounts receivable, and other investments. The working capital of the company is at present necessarily supplemented by borrowings to provide for new investments and increased cost of raw materials in all departments of manufacture, and stockholders will also recognize the necessity for larger use of capital to realize a like aggregate of earnings. Competition is active, but not destructive of returns to an economically managed business. The physical condition of your properties is being maintained by liberal expenditures, which, for the period under review, have been $86,194 for new work replacing old, and $112,104 for current repairs, making an aggregate of $198,298, all charged to operating expenses. With an ample stock of goods, inventoried at conservative prices, we shall maintain our position in the trade and participate in whatever measure of prosperity the current year may develop."

Boston & Montana Consolidated Copper and Silver Mining Company, Montana.

The report of this company for the year ending December 31st, 1900, shows gross receipts from sales of copper, silver, gold and bluestone of $13,242,576. The costs have been: Expenses at Butte and Great Falls and electrolytic refining, $4,241,896; handling and selling products and expense account, $807,828; interest, $31,468; total $5,081,192, leaving a balance of $8,161,384. Payments from this were: Bonds maturing, $48,089; special construction at Great Falls, $1,093,514; dividends paid—$43 per share, or 172 per cent.—$6,450,000; total $7,591,603, leaving a balance of $569,781. The balance brought forward from 1899 was $5,096,092, leaving a total credit of $5,665,873 forward to current year.

The current assets are given as follows: Cash, accounts receivable, products sold but not paid for, $5,639,704; cash and supplies at Butte, $225,937; cash and supplies at Great Falls, $347,046; total, $6,212,688. Bills and accounts payable were $540,815, leaving as balance of assets $5,665,873, as above.

The report does not state the quantity of copper or other metals produced, nor does it furnish any particulars of the mining, smelting and refining work done. There is no detailed statement of costs.

The report of Manager Frank Klepetko says: "Regardless of the fact that extraction this year has been the largest in the history of the mines, the ore reserves have been increased by 200,000 tons, and aggregated on January 1st, 1901, 2,700,000 tons. Having the requisite capacity now to treat low-grade ores, and the price of copper being at a point to allow the mining of these low-grade ores profitably, it is the intention to make our product, as far as possible, from these lower-grade ores, reserving the higher-grade ores for future mining and treatment, when the price of copper may not be so favorable.

"The hoisting houses have all been put as far as possible in a fireproof condition and the machinery in the different plants is all in excellent shape. The hoisting engine at the Mountain View, however, is getting too small for the work. This year we must surely order a new and larger engine—one capable of hoisting from a depth of at least 3,500 ft. A part of the construction incident to the installing of this engine will probably be undertaken this year. We are now ready to install the new pump at the Leonard Mine. This will have a maximum capacity of 1,200 gallons per minute. The pump end we built in our shops, according to our own design. The steam end was built by the Nordberg Manufacturing Company.

"The construction work at Great Falls, which was started in the fall of 1899, with a view of increasing the capacity of the plant, has been pushed vigorously throughout the year. The work is nearly finished in all departments and we are now ready to treat 2,000 tons of concentrating ore, and from 300 to 400 tons of smelting ore, daily. When everything is finished, we will have nearly double the former capacity of the plant. This year, besides finishing work already laid out, we must instal engines and boiler plants, to supplement to a certain extent our water power. We intend to instal engines to drive our generators, blast-furnace blowers and electric power generators. This will amount to about 3,000 engine horse-power. We expect to have this installed by August. This has been necessitated by our experience last summer and this winter. Shortage of snow and rainfall during the past year made the water very low in all Montana streams and rivers, and has occasioned, in our case, actual stoppage in certain parts of our plant for days at a time, on account of lack of water to drive the machinery. The installation of the supplemental steam plants will obviate such occasional stoppages in the future, should there be a repetition of such climatic conditions.

"Our costs this year, as heretofore, have been very satisfactory. We wish to mention especially the calcining cost, which has been reduced by McDougall furnaces, as modified by ourselves, to less than one-third of the Brueckner cost."

The directors' report says: "It will be noticed that the item, construction at Great Falls, in the list of expenditures in the accounts, has been increased $1,093,514 over the figures given in the last report. By this expenditure we have added over 50 per cent. to the capacity of our Great Falls plant, and we think so large and important an expenditure should properly be added to that account; since January 1st, 1894, nothing has been added to it, as the expenses, which have been comparatively small, since that time, would to some extent be offset by wear and tear and depreciation. However, this is a mere matter of bookkeeping, as this whole amount of expenditure has been paid from the net earnings of the year. The bonded debt has been reduced from $738,000 to $600,000, which indebtedness will mature $100,000 annually, beginning November 1st, 1902. The bonds bear 7 per cent. interest. The dividends paid during the year were $7 per share larger than were paid the previous year.

"What the effect of the eight-hour law recently passed by the Legislature of Montana will be, can only be told after the law has been in operation some months. The litigation in Montana looks somewhat better, and recent decisions of the Supreme Court of the State have been of a favorable character."

COAL DISCOVERY IN GERMANY.—United States Consul Hughes of Soburg, under date of January 3d, 1901, says that a layer of brown coal has recently been found under the bed of the River Havel, in the neighborhood of Potsdam. A drilling machine has been placed on two barges, which are timbered together and riding at anchor in the river. By means of this machine coal is brought to the surface from a depth of over 80 ft. Borings will be made to determine the depth and extent of this layer and whether it will pay to work it.

MINING CAMPS NEAR TOPIA, DURANGO, MEXICO.

Written for the Engineering and Mining Journal by Frank B. Fowler.

Canelas.

Canelas, literally "cinnamon," from the profusion of this growth there, is distant from Topia about four hours' ordinary riding. It is well to state in the beginning that in this article distances will be expressed in time, since the mountainous condition of the country precludes the forming of any rational idea of time if distances are expressed in miles only. The sketch-map will give a fair idea of the actual distance from point to point.

It lies southeast, in a fertile valley, with a population of some 1,000 persons. It is more celebrated for its fruits and vegetables than for its mines, probably because in these mountains there is a superabundance of mines and a great scarcity of garden truck. In one respect the town, or settlement, for the fields, gardens and orchards occupy about 5,000 acres, is remarkable. It is in a nook in the mountains, sheltered from all hard and wintry winds, preserving a very equable temperature the year round. Its inhabitants have preserved the physiognomy, traits and customs of the Spanish founders of the colony to a more perfect degree than can be found anywhere else, probably, in all the Sierra Madre. This is especially true of the women, who present some of the handsomest and purest Caucasian types to be found anywhere.

At an altitude of 4,500 ft. above the level of the sea it produces oranges, lemons, limes, bananas, peaches, apples, all kinds of vegetables, wheat, corn, tobacco and coffee finding a ready market in Topia and Culiacan. Of the mines, at present there is but one being worked in any systematic way—La Victoria, commonly known as El Toro, property of Sr. Conrado Pena, of Canelas, though negotiations are in progress for its sale to an American company. This property is virtually already sold to this company, but they desire other properties here, after acquiring which the intention is to unite all under one management and commence operations on a more extensive scale than the camp has ever seen. They will reduce their ore on the spot, shipping only the high-grade. Canelas suffers for lack of capital to erect reduction works on a large scale to treat economically the low-grade ore, of which there is an abundance.

In addition to El Toro there are adjacent claims, being worked only for the richer ores. The item of transportation is here, as everywhere else in the district, one of paramount importance, the ores being mainly low-grade silver, with lead and zinc.

Not far from El Toro is the immense mineral deposit known as El Promontorio, from which run the principal veins of Birimoa. It has a thickness of 150 ft., with ore averaging 20 to 30 oz. per ton, silver, with a little gold. Until some economical method of reduction on a large scale is instituted, this deposit cannot be successfully exploited.

Birimoa.

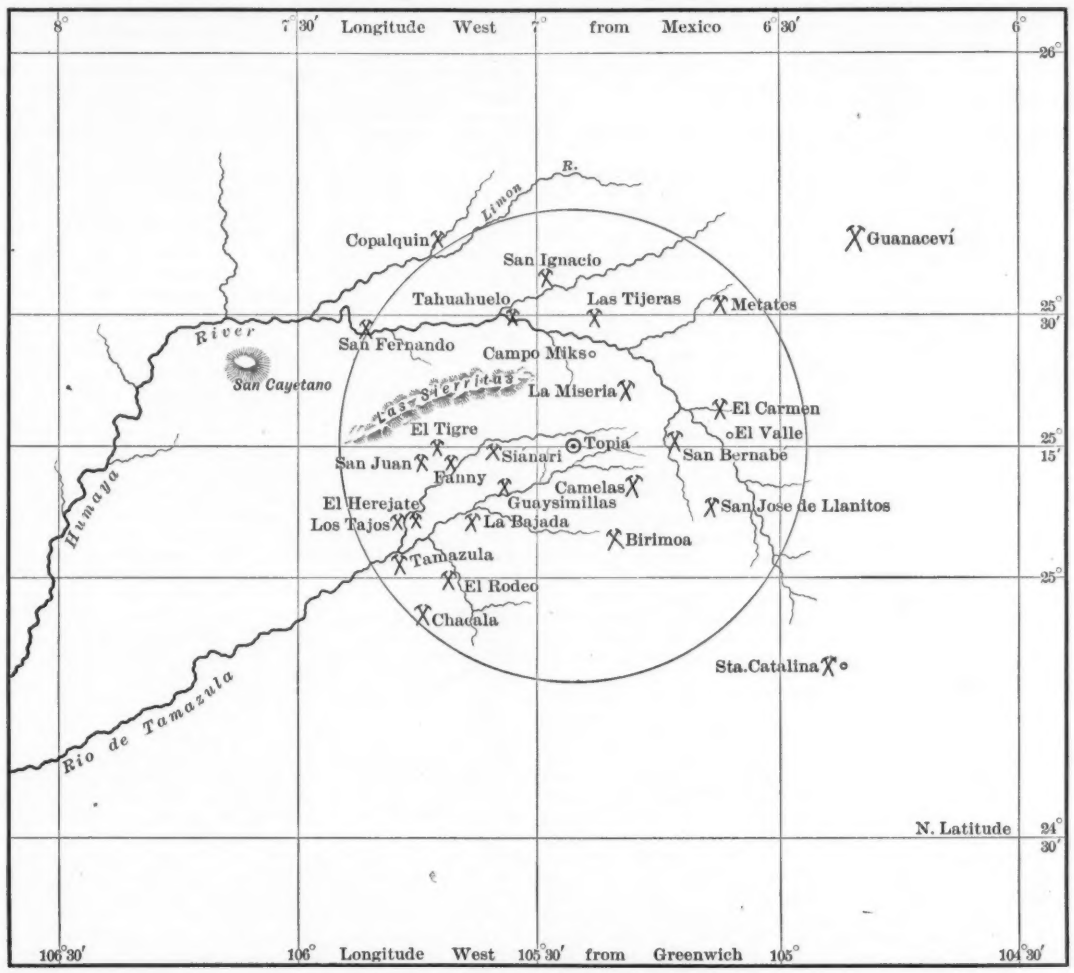
Birimoa lies some 7 hours southeast from Topia, via Canelas. It has a meager 500 of population, a 5-stamp mill, lixiviation and amalgamation, owned by Messrs. Lucano de la Vega and Jesus Almada, of Culiacan. The principal mines are San Cayetano, Saucito, Santo Nino, Dulces Nombres (the two latter owned by Sr. Eraclio Amador, of Sianori), Guadalupe and Magistral. They are silver and gold producers, the main value being in the silver, though ore has been extracted running 3½ oz. per ton gold. Lately (August) a rich strike was made in the Dulces Nombres, which still continues in bonanza. Between Birimo and Canelas lies one of the probable railway routes to the Pacific. The country is well timbered, and cost of construction at a minimum, being mainly in earth.

Guaysimillas.

Descending the Quebrada de Tamazula, Guaysimillas is reached from Topia in 6 hours. The mines here are silver and gold producers, the principal ones being La Trinidad, Mina de la Plata and San Rafael, owned by Sr. Luis Camacho, of Guaysimillas; La Plomosa, Los Tajos and La Amistad, the latter property of Sr. Jose M. de la Rocha, of San Fernando. Though a high grade of silver ore is produced here, the veins are narrow, averaging about 8 in. in thickness. Guaysimillas is the distributing point for many other mines surrounding, worked by "Gambusinos" or "chloriders." Population about 500, water plentiful, wood and timber scarce. It is one of the principal stopping points of travel and traffic between Topia and Culiacan.

La Bajada.

An hour's ride further on brings one to the Hacienda of La Bajada, now fast going to ruin. This hacienda, or reduction plant, was constructed in 1870, capacity 40 tons daily, run by water-power supplied from the river by a masonry canal nearly a mile in length. It was built to reduce the ores of the surrounding mines, of which the nearest principal ones are now at the water level and abandoned. The process was lixiviation, amalgamation and smelting, the ores being of silver with lead. Several attempts have been made to rehabilitate the hacienda, but have fallen through for lack of the necessary capital. The mines are still productive, though worked only here and there by gambusinos. Extraction of ore in any systematic way stopped at the water level, as is the case everywhere in this region.



MINING CAMPS WITHIN 30 MILES OF TOPIA, MEXICO.

Tamazula.

Tamazula is one of the oldest towns in the Republic, and was at one time of respectable size and considerable importance, though now reduced to a shadow of its former self. Here was the home of the first President of Mexico. Here was evidently the center of much mining activity, though in the immediate vicinity there are no mines worth mentioning; at least, of those known to the present inhabitants. Among the stones forming a part of the old church wall that fell some years ago were found many chunks of rich silver and gold ore, unlike any known to exist within a day's travel. These were probably transported rocks from an unknown distance, since, although the town sits upon a bluff overlooking the river, the solid rock of the bluff is covered with boulders and alluvial gravel from 1 to 2 yards in depth.

To the southwest about 5 miles is the silver and gold mine of El Zalate, owned by Sr. Eraclio Amador. He closed down when he struck

water some 10 years ago, since which he has neither worked it himself, nor cared to sell it at a reasonable price, nor allowed others to work it. It was always a good producer.

Tamazula has about 1,000 inhabitants, and is distant from Topia a good 12 hours' ride. From its departed glory the political district, of which Topia is now the center, takes its name.

El Acachuane.

The settlement of El Acachuane, 2 hours from Tamazula, ascending the Quebrada de Sianori, includes the Tajos Mine and others, briefly described in the "Engineering and Mining Journal," December 2d, 1899, page 666. About half a mile northeast of the Tajos is the silver mine of El Huejote, owned by Sr. Primitivo Lazueta, of Tamazula, and Sr. Jose M. Rocha. The ore is similar to Topia ore, containing a high percentage of lead.

El Rodeo.

El Rodeo is nearly 2 days' travel from Topia by way of the Quebrada, turning off to the southeast at Aguacaliente, between Le Bajada and Tamazula, where there are boiling hot springs, and ascending the Rodeo arroyo. The principal mine is El Desague, owned by Sr. Severo Amador, of Culiacan and El Rodeo. There are two other strong properties, owned by other parties. The ores are of silver, more similar to the ores of Topia than of any other camp shown in the map, containing a high percentage of lead, much sulphur, some zinc, iron, antimony and arsenic. Mr. Amador's mine is down to the water level, but unlike nearly all Mexican mine owners in this district, past and present, he is not deterred, but is installing pumps and other machinery for still more elaborate development.

(To be Continued.)

A MINING ENGINEER'S SCRAP-BOOK.

Written for the Engineering and Mining Journal by W. S. Gresley.

In these days of multiplicity of technical periodicals, journals, papers, advertising matter, etc., in one way or another treating of or descriptive of ever-increasing and almost endless methods, schemes, plans, contrivances, inventions, experiences, suggestions, ideas, and so forth, on engineering subjects or things allied thereto, with or without, but especially with, illustrations or drawings; it seems to the writer that even he who poses or who aspires to become a specialist or an expert in some branch or branches of mine engineering, particularly if he be removed from access to files or to bound volumes of the books and records—cannot read the ever-increasing flow. Unless he possesses a very good memory, he has a hard time to keep himself posted on such things so that they may be easy of reference and of service to him from time to time.

Very few indeed are able to obtain all the technical and trade papers. The average mining engineer cannot afford them; and supposing that he could, would he have the time to read and re-read and study so much of them as he desired? To find room to keep and classify all this literature would puzzle most of us. Perhaps the dilemma arising from one's inability to possess or to lay one's hand upon anything and everything as against keeping nothing and so taking chances of never wanting the material may be got over by taking a makeshift course, to make a collection or selection of all cuts, photographs, prints, articles, extracts, notes, sketches, clippings, etc., relating more or less directly to one's chosen branch of the profession, and in a book or in books kept expressly for them to paste all such odds and ends that strike one as worth keeping. In this connection we are reminded of the use and preservation of memorandum or note books, which, with advancing years, accumulate and yet have to be cared for, requiring some sort of arrangement and classification in the office shelves or elsewhere. The writer's experience in this line leads him to suggest the use of large rather than small memorandum books, one reason being that if too many of them are kept going at the same time, one's notes get separated to a degree tantalizing and wearisome for reference. Ready reference is, of course, facilitated by means of increase in size of page used and in reduction in number of pages in a book. By the objectionable features or methods of memorandum bookkeeping we are taught one point in scrap-book making, and that is to divide these books as much as possible, that is to say, set apart so many pages to each subject; in other words, not to mix up everything indiscrimately or to fill up the pages with every kind of subject matter. This choice of method must be left to the individual judgment, but attention to it will improve the value of the book. For the preservation of innumerable clippings, etc., that otherwise would either be placed loose between the leaves of one's books on mining and kindred subjects, or not be preserved at all—both very undesirable habits to fall into—the scrap-book is very suitable. When a leaf of a journal or other publication contains portions of the same article on both sides, or it may be two different subjects or things are printed back to back and both are wanted for scrapping, it can be inserted so as to make both of its sides accessible. In such cases neatness in work must often yield to utility.

As it is often very desirable to write or insert notes, etc., by the side or margin of things in scrap-books (it may be long after the things are inserted), crowding, when pasting in, should be guarded against.

An example of scrap-booking may not be out of place here. The writer, about 10 years ago, started one—a quarto volume with pages or leaves 12 by 10 in. and 200 leaves or 400 pages. This made a book about 3½ in. thick when filled. Provision for an index was made. This book was filled in about nine years, but he kept a second one for pictures chiefly, or things not exactly coming withing the scope of mining—of views, such as photographs of underground workings, strippings or open holes, quarries, bridges, conveyors, locomotives, buildings, cars, fans, cutters, drills, ropes, machinery and so on. This method, of course, has objections, like any other, it being often difficult to discriminate between material more suitable for one book than the other.

As one would expect, a book of 400 pages filled with articles and memoranda on miscellaneous mining subjects is quite apt to contain a considerable amount of data relating to a diversity of topics of both home and foreign production culled from quite a variety of sources—data here accessible with a minimum of labor and time expenditure. To give an example or two of its contents—take the subject "Timbering." Turning to the index (in front part of the book) we find it under 10 different heads and with 20 separate entries—separate clippings. On "Gob Fires" or "Spontaneous Combustion" are 9 separate articles or extracts; 12 relate to "Accidents in Mines"; 6 refer to "Coke and Coking"; 4 describe "Drums for Hoisting or Winding"; 7 deal with "Fires in Mines"; 18 treat of "Longwall Methods"; 5 illustrate "Air Locomotives"; 5 are on "Laws of Mines and Minerals"; 4 discuss "Mining Accounts"; 16 are descriptive of "Electric Pumps"; 10 are devoted to "Ropes"; 6 deal with "Waste in Working," and so on.

The variety of subject matter brought together in this particular scrap-book may be illustrated by naming the subjects under, say, letter P: Pumping; Pumping Machinery Compared; Pumping Engines, Calculation for; Pumping Engines, Hydraulic, etc.; Pumping, Electric; Profiles of Mammoth Vein of Anthracite; Pillar and Stall; Pillars of Coal, Sizes for; Packing of Goaves; Petroleum Engines for Mines; Prospecting; Pipe Repairing in Mine; Pipe Laying Under a Lake; Pocahontas Coal; Power in Mining Operations; Pass-by in Shaft; Pyrites, Gold in; Pyrites in Coal; Pittsburg Coal-bed and Mining it; Pipe Cleaning in Shafts; Power-transmission, Cost of; Pneumatic Sinking; Purchase of Coal, Guide to; Peat as Fuel; Photography in Mining; Photography in Mining Reports, Patents on; Proft-sharing; Pumping Coal to Market; Pumping by Accumulator System; Portable Pumps; Production of Coal, World's; Placer Mining; Pole Line; Philadelphia & Reading Coal Company's Mines; Prop-drawing Apparatus; Pittsburg Coal Company of 1899; Pick-machine Contest; Power from Coal; Puncher Tests; Professional Directors.

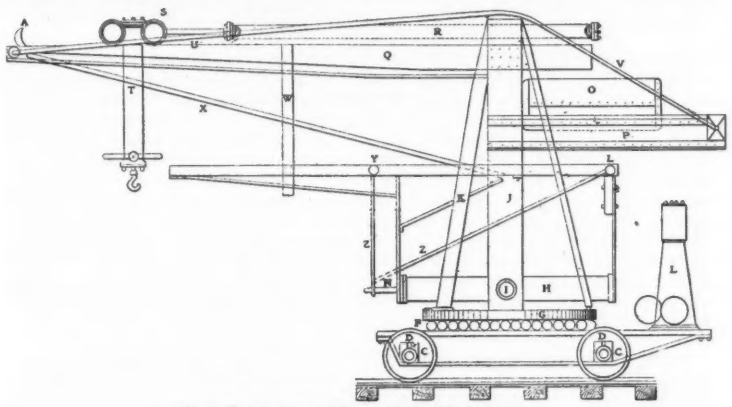
The value of the scrap-book may be tested by a few quotations or extracts therefrom. Opened in the middle, or at page 200, there happens to be an abstract of a paper on the subject, "Waste of Coal," by an English engineer. Now, what does my book have to tell us on this subject? Turning to the index we find six separate entries, extracts from which may not be without interest to many: 1. This has reference to working the "Pittsburg" coal bed in 1898. "We must deprecate any wide room schemes with thin ribs to be buried. The getting of the coal without waste in the ground is the theme that concerns us all as we would regard economy for the good of the general community and posterity, and is next in importance to the State inspection for the health, security and welfare of the miners. No one now questions the beneficence of the inspection laws, and their scope is, or should be, preventive of wastefully destroying a coal-field." 2. This refers to mining the Bellville seam, No. 6 of the Illinois series, in 1891. After a detailed description of the method of mining, the author of the article concludes: "By observation at the shaft landing it was determined that 8 1/3 per cent. of the coal hoisted went to the slack dump to be sold for practically nothing and part to be used as fuel at the mines. The marketable coal of the seam is only 46.89 per cent of the total steam; but to this must be added about 25 per cent. of the 38 per cent. left as pillars, which is to be regained by robbing the pillars. Thus the total amount of the Bellville seam which is available as lump coal by the present method of mining is 56.39 per cent. of the total steam. 3. With respect to coal wastage in Ohio in 1891-92, the State Inspector is reported to have said: "Another prominent feature, and one which should receive attention of the General Assembly, is an article on the wasteful methods of mining the coal in the State. The methods of mining and the matter of allowing large quantities of coal to remain unmined in abandoned workings, as is being done almost daily throughout the coal-fields of the State, are treated in a critical manner which shows a careful canvass of the subject to have been made. This should receive careful consideration and, if possible, be remedied." 4. The English engineer above mentioned is reported to have remarked that the waste of coal in consumption arising from incomplete combustion was as nothing in comparison with the waste from no combustion, or coal left in the mine. In waste in working there were (a) pillars left and afterward crushed, which occurred mostly in the pillar and stall system; (b) small properties, where terms of purchase could not be arranged, were passed by for a time as was supposed, but were eventually lost; (c) in some places barriers of considerable extent were left, where, by arrangement, much shorter barriers would have answered all purposes; (d) large barriers were sometimes left for security, because plans of old workings could not be found; (e) coal was left ungotten because of contention among owners as to pumping expenses; (f) the coal being left below because not workable at a profit. The leases were in many cases drawn up in such a form as to lead to the abandonment of large areas, simply because the coal was of less value than in other parts of the same mine. This was especially the case where the coal was soft and made much slack. (g) There was a great tendency to select for working only the best seams. The coal owner risked nothing. The colliery worker risked his capital; he bore the expense of proving; he was bound to work so much per year or pay for that which he had not got," etc. 5. In Western Pennsylvania, working the Pittsburg bed with machines, we read, "about one-third of the coal is practically lost, because it is apparently not possible to mine the coal on any other system than that of room and pillow. The pillars should be drawn at once on the completion of the work. In machine-mining after the room has been driven to its destination there is a tendency to temporarily abandon the rib or pillar instead of starting in at once by hand mining, as should be done, simply because hand or pick mining is a little more expensive, the matter is put off until some time when there will be more profit in coal. This time never comes, and a room once temporarily abandoned is very apt to be permanently so. As in a few years falls and breakers will make it absolutely impossible to recover abandoned ribs, these ribs—amounting to one-third of the coal, which, with its development in the way of tracklaying, entry driving, drainage and haulage probably stands on the books of the operator at from $600 to $1,000 per acre—are permanently lost."

Surely, in the foregoing few lines we have no lack of weighty words nor of matter for serious reflection in this connection. These statements and opinions of practical men can hardly be read too often when to

profit by them is our aim in preparing plans and when being in charge of actual operations. It would indeed be strange if my scrap-book did not contain a goodly pictorial history of electric mining machinery and appliances for various purposes. As to the locomotive, its display of views of them (for the most part American) probably covers nearly the entire range, from 1887 to the almost perfect machine of to-day, thus forming a series of views showing the evolution of the electric mine locomotive of very considerable interest. And, of course, the coal-cutting machine, too, comes in for not a little treatment and occupation of space. Likewise the drill, the pump and other apparatus.

In scrap-book practice it is often difficult to determine what material to retain and what to reject. One does not want to keep too much, but one does want not to lose anything that some day may be of value or of interest to oneself or one's heirs, etc. Probably the safer plan is to err in keeping rather too much than not enough. Then there is the all-important matter of indexing, for unless every subject is properly recorded much of the value of the work done is destroyed, or, at all events, lessened. Let us take an example: "Repairing a Caved-in Shaft." Now under letter C we should have "Caved-in Shaft, Repaired;" under letter R, "Repairing a Caved-in Shaft"; and under S, "Shaft Cave-in, Repaired." Another point; do not enter, say, "Conventional Signs for Engineers' Drawings," but "Drawings, Conventional Signs for"; nor "Straightening Chimneys," but "Chimneys, Straightening." In pasting in, my plan has been not to be everlastingly adding one or two things to the scrap-books, but to devote an hour or two to them every now and then, say every two or three months. Doing thus gives one, I think, a better chance to select, group, classify and economize space, besides saving time.

It seems to me that if scrap-booking benefits the mining man in no other way, it does tend to inculcate or develop vigilance, method, painstaking, neatness, broadmindedness, discrimination, adaptivity, and even perhaps inventiveness in him. We think an engineer's scrap-book may be likened to "a Jack of all trades who is master of none," since its contents,



THE JANNETTE CHARGING MACHINE.

while referring to something about everything, do not tell one everything about some one thing. In using the scrap-book, then, do not take it for granted that scraps of information are always reliable: being scraps, and not wholes, their value must be relative and conditional. This point is called attention to for the reason that it cannot be said that the scrap-book has no drawbacks. The writer does not lay claim to have solved the scrap-book or the note-book problem for the mining engineer, but he does claim that note-taking, or rather memorandum keeping or fact-recording on the scrap-book system, has its interests and is not without some practical use, as others long since doubtless have found out and will find if they start one or more of these books.

A business scrap-book is, of course, something that neither money nor anything else could replace if lost or destroyed; for it stands for a large amount of reading, marking and careful work. Every engineer's scrap-book will or do carry upon its pages a sort of reflex of its compiler's bent.

In conclusion, here is one idea for a novel feature at some future mining engineers' meeting, when the programme may contain an announcement somewhat as follows: "At some convenient hour during this meeting it is proposed to have an exhibition of members' business or office scrap-books, so all are invited to bring their books, together with such duplicate scraps as may be available for exchange." Why not?

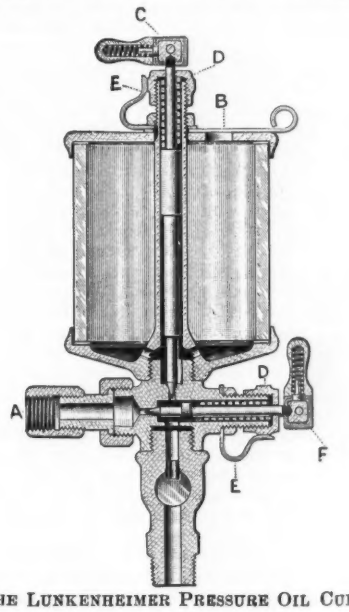
THE JANNETTE CHARGING MACHINE.

The Jannette charging machine, which is shown in the accompanying engraving, is a modified locomotive crane designed by Mr. A. V. Jannette, master mechanic at the Birmingham Rolling Mill in Birmingham, Ala. The machine, which is in use in that mill, was built in the company's machine shop. For the drawing and its description we are indebted to the Cleveland "Iron Trade Review."

It is for charging, slabs, blooms or ingots into a furnace turning them over while inside the furnace; then drawing them out of the furnace and running them to the rolls. This machine is built on trucks with a heavy cast-iron bed plate or frame and is of standard gauge. It is 8 ft. wide by 10 ft. long. It has a turning table 7 ft. wide which revolves on chilled cast-iron balls. The locomotion and table are operated by a pair of upright twin engines with link motion. It has a wrought-iron mast 15 ft. high and 2 jib booms, one 18 ft. long and the other 10 ft. long. It has a radius of 36 ft. from the center of the turning table. There is a horizontal cylinder between the masts on a pivot and it oscillates to suit the position of the charging bar. It is 8-in. bore by 7 ft. long. There is also one horizontal cylinder 5-in. bore by 11 ft. stroke that operates the carriage, and one upright cylinder 7-in. bore by 4-ft. stroke that operates the lifting tongs. All this machinery is located on the revolving table and turns with the jib booms to any degree. It will also swing all the way around. This machine travels 300 ft. per minute. It also has an outside cylinder alongside the boom for turning over the slab or ingot inside the furnace. This "turning-over" process is one of the main features of the machine, together with its turning bar or peel.

This machine will run on any standard gauge railroad track, and will load or unload cars, lift and turn logs, timber or any other heavy weight. It can be operated by steam or air. The machine in the Birmingham mill is operated by air, and will do the work of 25 or 30 laborers, besides adding to the output of the heating furnaces in rolling mills where it is operated. The driving gear is beveled, and is operated by a friction clutch, which also operates the revolving table, all of which is operated by the twin engines.

The letters on the accompanying cut refer to various parts of the machine as follows: B, iron base plate; C, car wheels; D, axle journals with the support E; F, ball bearing; G, 6-in. gear wheel; H, horizontal cylinder; I, inserted bearing in column J for cylinder; H and K-K, side brackets supporting the column J; L-L, reversing engine; M, jib boom supporting the end of the piston rod N; O, air or steam tank supplying all cylinders; P, brackets supporting the tank; Q, main jib boom of crane; R, horizontal cylinder connecting with the carriage S supporting the cylinder T; V, is a binding or strengthening



THE LUNKENHEIMER PRESSURE OIL CUP.

rod; W and X, braces; Y-Y, trolley wheels running inside an I-beam attached to the rods Z-Z supporting the end of the piston rod N; Z-Z, square rods attached to the end of the piston rod N to carry weights of same when extended. A is a stop for the carriage S.

THE LUNKENHEIMER PRESSURE OIL-CUP.

The accompanying illustration shows in section the pressure oil-cup made by the Lunkenheimer Company, of Cincinnati. In this cup the glass reservoir is not under any pressure whatever. The oil supply is piped through the union A in the base, the opening of which into the oil duct leading to the bearing is controlled by the oil regulating valve F. The auxiliary supply is regulated by the oil valve C. With this design it is always easy to regulate the supply of oil under pressure, and when it is desirable to cut off the supply the valve F can be turned down and will then act as an indicator, showing from a distance that the supply has been shut off. The regulation of this valve is easily effected and when once set is not disturbed by the jarring of the machinery. The sight feed in the base is large and the falling drops of oil can be seen from a distance. The auxiliary oiler (which is intended to be used in case the pressure should be discontinued or cut off) consists of the company's Sentinel oil-cup, the feeding of the oil being regulated by the cam lever C in the same manner as with the pressure supply. The auxiliary oiler has a large slide filler, which dispenses with the screw plugs usually used.

ARSENIC IN COPPER.—A series of experiments is described by Ernest A. Lewis in the "Chemical News," in which arsenic was added to a copper 99.84 per cent. pure, and the resultant metal studied photomicrographically and as to its physical properties. Malleability is not appreciably affected by small quantities of arsenic (up to 1.8 per cent.), the samples with 1 per cent. and with 1.37 per cent. rolling particularly well. The tensile strength is from 3 to 5 tons higher than that of ordinary sheet copper, the limit of elasticity is about 3 tons per square inch higher, and the elongation is not reduced. From micrographical examination, the metal appears to consist of crystals of copper, in a eutectic of copper arsenide or a solution of copper arsenide in copper. In copper intended for rolling, except that for electrical purposes, the presence of a small amount of arsenic appears to be a distinct advantage, but nothing is gained by having more than 0.5 per cent. present.

These results, says "Science," are of much importance in view of the fact that chemical literature has had little to say about the effect of small quantities of arsenic on copper

A POWER TRANSMISSION PLANT IN SUMATRA.*

The Redjang-Lebong gold mine of Sumatra has been fitted with an interesting water-driven three-phase power transmission plant by Messrs. Siemens & Halske. The Redjang-Lebong Mining Company was founded by the Batavian commercial house of Erdmann & Sielcken for the purpose of working the gold-fields in the neighborhood of Lebong Donok in the interior of Sumatra. Besides the quantities of rich ore these gold-fields had the further advantage that a large amount of water power was accessible within a distance of only 2 miles, so that by means of electric transmission this would furnish motive power for the entire works. The electric power is used for hoisting and pumping; for driving the stamp mill; for the pumps, etc., for the cyanide works; for running the repair shop; for lighting; and for operating the air compressor, which furnishes power for the drills.

Initially, Mr. G. A. Wright, the technical manager of the mine, has adopted compressed air drills, but tests are to be made with electrically driven drills to see if the small energy consumption claimed for this pattern is borne out in practice.

The water power, which is at a distance of 2 miles from the mine, has a fall of 133 meters (436 ft.). At first only about 10 cubic meters of water per minute will be made use of, so that assuming an efficiency of 85 per cent., about 125 H. P. will be available. Pelton wheels were adopted in view of their simplicity and the advantages they offer in the case of a high fall. There is sufficient water for a considerable extension of the present installation. The Pelton wheels are directly coupled to three-phase generators, this being the natural arrangement in view of the high speed of this class of water motor. A pressure of 2,200 volts has been chosen, and this is generated directly from the machines without the interposition of transformers. Each of the three generators is rated at 100 Kw. for an inductionless load. In erecting the station, a considerable difficulty was experienced owing to the absence of transport facilities, the generating station being at a distance of 170 kms. from the coast. The nature of the country to be traversed was such that a light railroad was out of the question, and all the parts of the machinery had to be carried in small two-wheel carts or else by hand. On account of these transport difficulties no single piece was allowed to weigh more than 600 kgs., and this necessitated special designs in the case of some of the larger motors and the dynamos. For instance, the staiors of the larger machines, which, according to usual practice, would be made in one casting for machines of this size, had to be made in four pieces, and the iron stampings had to be delivered separately and fitted into the casting on the spot. Thus the dynamos could not be wound at Messrs. Siemens & Halske's works, and this had to be done during erection. In order that the winding might be carried out in the easiest and quickest possible manner, mica troughs were employed for the insulation, and these were laid directly in the open slots of the cores.

A staff of three was sent out to erect the plant, the man in charge being assisted by a dynamo fitter and a second fitter for the erection of the overhead line, the latter member of the staff being considered as a reserve hand to take the place of one of the others in case of illness.

The smaller motors, and also the two 37.5-H. P. motors, did not occasion the same difficulties as the three dynamos. The 37.5-H. P. motors merely had their stators divided into two halves, and each part of the machine separately packed, and in the case of the switchboard also, by dividing it up suitably, it could be packed in cases within the maximum limit of weight without any modification in the standard design. It took some weeks to carry the dynamo shafts from the coast to the works. This was done by coolies, Considerable difficulties were experienced on the way, and in one case the journey was stopped by an earthquake, followed by landslips. The buffalo carts employed for the other dynamo parts afforded a relatively convenient and advantageous means of transport, but even in this case trouble was occasioned by the tropical rains, which not only spoilt the roads, but also frequently caused damage to the contents of the cases. Some of the dynamo windings and instruments suffered in this way, either owing to their cases having been broken in transit, or to the heavier ones having been unpacked on arrival at the coast, their contents divided, and re-packed in smaller cases without proper provision for rendering them watertight. Fortunately the possibility of mishaps of this sort had been anticipated to a large extent, and plenty of spare parts, especially material for winding, etc., had been sent out. It took four months to erect the plant once it had arrived at the station, and in this work the German fitters were assisted by native labor. The high-pressure transmission line through the jungle is placed on poles as high as possible, so that the line will not be damaged by the quickly growing trees, and a thorough inspection of the line takes place at regular intervals of time.

The smaller motors and lighting are provided for on low-pressure circuits through transformers, but some of the larger motors are supplied directly at 2,000 volts. In order to be secure against accident, the switches, cut-outs, ammeters, and voltmeters are inclosed in cases which are carefully earthed. Rubber cable, with extra good insulation, is employed within the buildings, and fixed to the wall with iron fastenings which are earthed here and there. Up to the present no accident has occurred. A telephone enables communication to be held between the generating station and the mine. The telephone wire is placed beneath the high-pressure wires on the same posts. In order to guard against injury, should a high-pressure wire fall and come in contact with the telephone line, a telephone set, specially designed for such cases, is employed, in which the mouthpiece and receiver are pieces are connected to the instrument by rubber tubes, and are not in metallic connection with it. The whole installation has been working for several months to the satisfaction of the owners of the mine.

*Abstract of paper in London "Electrician," February 6th, 1901.

RECENT DECISIONS AFFECTING THE MINING INDUSTRIES.

Specially Reported for the Engineering and Mining Journal.

EMPLOYER NOT LIABLE FOR NEGLIGENCE OF MINE BOSS.—The negligence complained of in a personal injury suit, having been the order of the mine boss, who was the fellow-servant of the injured employee, and the superintendent not having participated in the direction or control of the work in which the employee was engaged, the employer is not liable for the injury suffered.—Velas vs. Patton Coal Company (47 Atlantic Reporter, 380); Supreme Court of Pennsylvania.

INDICTMENT FOR NOT PAYING EMPLOYEES IN KENTUCKY.—Under the laws of Kentucky (Statutes, section 2739a) only such persons or companies engaged in mining industry as are unable to pay their employees in lawful money at the time required by the statute are given 15 days to execute due-bills, and therefore where the employer is able to pay, an indictment against him for failing to do so may be returned before the expiration of the 15 days.—Commonwealth vs. Hillside Coal Company (58 Southwestern Reporter, 441); Supreme Court of Kentucky.

LIABILITY OF MINE OPERATOR FOR INJURIES.—A miner who is permitted by his employer, either expressly or impliedly, to go to a certain place in the mine, and there receives injuries from causes of which he had no previous knowledge, but which were known to the employer, and should, in compliance with his duty to provide a reasonably safe place for his employees, have been obviated, may recover from the employer for such injuries.—Harder & Hafer Coal Mining Company vs. Schmidt (104 Federal Reporter, 282); United States Circuit Court of Appeals, District of Illinois.

RIGHT OF ALIEN TO INHERIT MINING CLAIM.—The right of an alien to inherit a mining claim located upon Government land, as against every person but the United States, is determined by the laws of the State in which the claim is located. By the laws of Oregon, page 62, 1899, providing that all mining claims shall be real estate, and the owner of the possessory right shall have a legal estate therein, applies to a mining claim which, at the time of the passage of the act, was property of the estate of decedent; and such claim not being held or required for any purpose of administration, passed at once by inheritance to the heirs as real estate, and they became entitled to maintain a suit, in any court of competent jurisdiction, to set aside an alleged collusive and fraudulent conveyance of the claim by an administrator.—Lohmann vs. Helmer (104 Federal Reporter, 178); United States Circuit Court, District of Oregon.

NATURAL GAS NOT SUBJECT TO PUBLIC APPROPRIATION.—Since the right to mine natural gas, when left to the natural laws of flowage, exists exclusively in the owners of the superincumbent lands, and such gas is not subject to public appropriation without their consent, they are entitled to preserve it from destruction, independent of the right of the State to regulate it, and may enjoin any act of any one owner to induce an unnatural flow into or through his wells which tends to the injury or destruction of the common supply. Such gas does not become the prperty of anyone until reduced into actual possession; hence objections based on the right of transportation and sale are not pertinent to a complaint to enjoin the use of artificial means to increase the flow.—Manufacturers' Gas and Oil Company vs. Indiana Natural Gas and Oil Company (57 Northeastern Reporter, 912); Supreme Court of Indiana.

LIMITATIONS SUBSEQUENT TO TRUST DEED DO NOT BIND.—Two parties sold an option to purchase a mine to a corporation, which entered into possession and placed certain personal property in and about the mine, to work it. The mine not proving successful, the directors at a meeting, in some respects irregular, authorized the making of a trust deed of the personal property for the benefit of the creditors. The trustees went into possession and held it for over a year, when possession was taken from them under an execution on a judgment obtained by seller of option in an action to recover the mine, and a sale thereunder. The president of the corporation had prior to this obtained an extension of the option, agreeing that the machinery—the property covered by the trust deed should go with the mine if they failed to purchase. The court held that such agreement having been made subsequent to the execution of the trust deed was not binding on the trustees, and the creditors were entitled to same.—Silsby vs. Strong (62 Pacific Reporter, 633); Supreme Court of Oregon.

LIMITATION OF POWERS OF DIRECTORS IN CALIFORNIA.—The law of California (Civil Code, section 305) declares that the business of a corporation must be carried on by its directors. Act April 23d, 1880 (Statutes 1880, page 131) declares that it shall be unlawful for the directors of any mining company to sell leased property, or otherwise dispose of the whole or any part of the mining ground owned or held by such corporation, unless such act be ratified by the holders of at least two-thirds of the capital stock. It was held that, where a mortgage on all the property of a mining company was invalid because of having been authorized at a directors' meeting at which no legal quorum was present, and thereafter two-thirds of the stockholders united in signing an instrument that purported to ratify the giving of the mortgage, the stockholders not having had authority to mortgage the mine under section 305, their ratification of the invalid act of the directors did not render the mortgage valid.—Curtin vs. Salmon River Hydraulic Gold-Mining & Ditch Company (62 Pacific Reporter, 552); Supreme Court of California.

ARGALL'S PATENT CRUSHING ROLLS.

The accompany drawings show a set of crushing rolls recently patented (United States Patent No. 666,892) by Mr. Philip Argall, of Denver, Colorado. These improved rolls are designed, first, to open parallel across the faces while in operation no matter how unequal the feed or the resistance, and, secondly, to avoid end thrust on the journals, which is one of the prime causes of flanging, by forcing the rolls to slip by each other, and thus wear unequally. Fig. 1 is a perspective view of the improved machine as organized for fine crushing of dry ores and rock. Fig. 2 is a plan view. Fig. 3 is a side elevation.

Referring to the drawings, a is the shaft of the fixed roll; b is the shaft of the movable roll; c is a strong cast-metal U-shaped frame or yoke which carries the journal-boxes of the movable roll and itself slides back and forth on roller-bearings, d d, on fixed guides, e e, supported on the main frame, f f; g is the movable roll; h is the fixed roll; i is a dust-proof cast-metal housing inclosing the rolls; j is a hopper-shaped opening in the top of the housing, conveying the material to be crushed to the passage between the rolls; k is the chute for conveying away the crushed material; l is an opening in the side of the housing to permit of the horizontal movement of the sliding-roll shaft; m m are sliding spring-pressed plates covering the opening l; n n are the driving pulleys, secured on the ends of the roll-shafts; o is an equalizing-lever

Fig. 1.

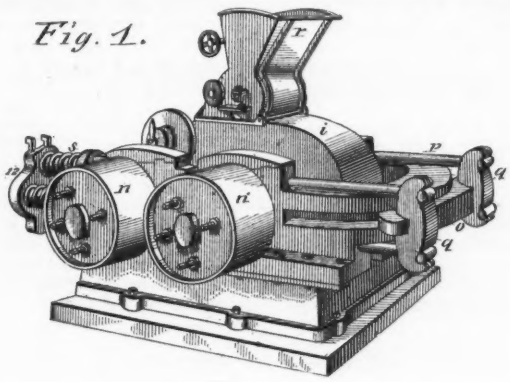
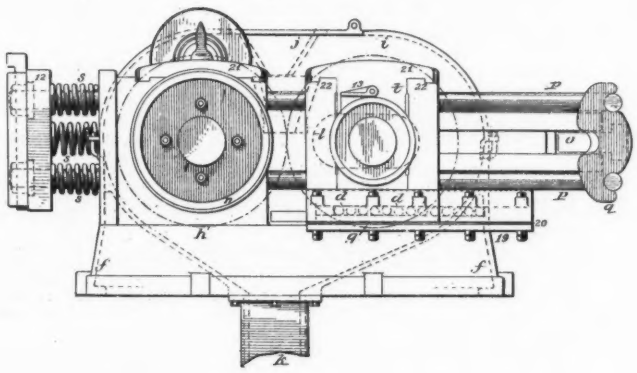


Fig. 3.

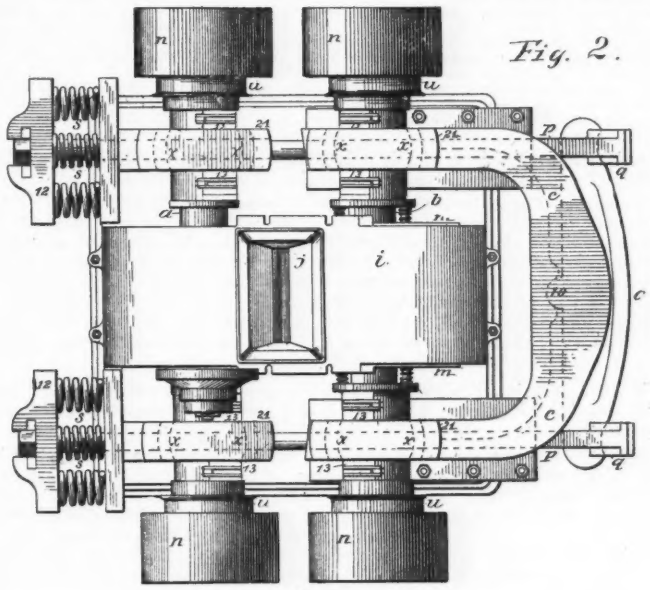


having a fulcrum, 10, taking seat centrally in a groove or recess, 11, in the U-shaped frame, c; p p are tension-rods, one above and one below the roll-bearings on each side, extending from the equalizing-lever, o, back through said bearings to the rear of the machine, where they are made fast to strong head-blocks, 12, abutting against the interposed springs or batteries of springs, s s, which by means of said equalizing-lever powerfully constrain the U-shaped frame and its contained roll, g, toward the fixed roll; q q are short vertical equalizing-levers for distributing the tension between the upper and lower tension-rods on each side and transmitting it to the extremities of the equalizing-lever, o. The tension-rods, p, are made T-headed to engage with said levers, q, and secured at the other end to head-blocks, 12, by screw-threads and nuts or in any suitable manner; r is a feed-hopper which may be used with the machine, but forms no part of the present invention; t is the swiveling journal-box, formed with convex cylindrical sides, y y, fitting into a suitable recess or cavity vertically bored for it on each side in the main frame and in the U-shaped casting, c. Shown in curved dotted lines in Fig. 2; 13 is the lid of the oil-cavity for the journal-bearing; u is a thrust-collar fitting loosely on the roll-shafts outside the bearings and inside the driving-pulleys, rotating with said shafts and pulleys, but having a longitudinal movement on the shafts by means of a suitable spline or feather, as 14. This collar takes seat against a recess in the journal-box, anti-friction ball-bearings or other suitable anti-friction devices being interposed, and it is also recessed to fit over the end of the journal-box to make, in conjunction with the packing a dust-proof bearing. A packing is also employed around the shaft to exclude dust from the bearing.

The U-shaped frame has its base recessed and adapted to slide on the roller-bearings, adjustment for wear being made by removing shims inserted between the cleat and the bottom of the sliding frame and taken out one by one as the wear progresses. To receive the swivel journal-boxes carried on this frame, the latter is vertically bored and recessed on curved lines to fit the curvature, y y, of the boxes, as shown in dotted lines at x x, Fig. 2, and a portion of the main frame is similarly bored and recessed to receive the swivel-boxes for the fixed rolls. This provision for the journal-boxes is necessitated by the extreme vibration incidnt to high-speed crushing-rolls and permits a small range of oscillation, preventing destructive action upon the journals and bearings. The journal-boxes are cast in one piece with the overhanging cap, undercut and recessed on curved lines to fit over the sides of the journal-box frame, similarly formed, and are held in place by the tension-rods p, which pass through them with a loose fit. Owing to the tremor or vibration above referred to the fewer bolts used in parts most directly exposed to it the better. These journal-boxes and caps complete have not one single bolt in them.

By the provision of the U-shaped frame above described and the system of equalizing-levers it results that the strain, however unequal between the rolls, is transmitted to the fulcrum, 10, on the central line of the rolls and is distributed to both batteries of springs, so that no matter how unequal the pressure or resistance may be between the rolls at the crushing-points it is distributed, and the total spring-pressure or comprehensive strain between the rolls is transmitted through the central line perpendicular to the axes of the rolls. Consequently the rolls under any and all conditions open and close strictly parallel, preserving uniformity of wear so far as possible and eliminating end thrust. In order, however, to keep the tires in perfect alignment and provide for the taking up of end wear, the thrust-collars, u, have been provided. The adjustment of these collars is effected and secured by means of bolts and lock-nuts, the bolts passing through the fixed shaft-pulleys or other equivalent abutments to resist the thrust, said bolts having squared outer ends for receiving a wrench to turn them by. For high-speed fine crushing the pulleys shown in the drawings are preferred. These are of a diameter somewhat less than the rolls, one on each end of each axle or shaft and securely fixed by means of keys or other devices, whereby the wheels are held rigidly on the shaft and cannot move

Fig. 2.



ARGALL'S CRUSHING ROLLS.

endwise until unlocked. They are driven by a belt wound on each set of pulleys.

MINERAL COLLECTORS' AND PROSPECTORS' COLUMN.

(We shall be pleased to receive specimens of ores and minerals, and to describe and classify them, as far as possible. We shall be pleased to receive descriptions of minerals and correspondence relating to them. Photographs of unusual specimens, crystals, nuggets and the like, will be reproduced whenever possible. Specimens should be of moderate size, and should be sent prepaid. We cannot undertake to return them. If analyses are wanted we will turn specimens over to a competent assayer, should our correspondent instruct us to do so and send the necessary money.—Editor E. & M. J.)

303.—Clay.—F. C.—Your sample is a soft, fine-textured gray rock that comes nearer being clay than anything else. It is not talc, kaolin, nor fuller's earth, and could not be used for the same purpose as those minerals. It may be adapted for making brick or earthenware. Analysis would probably show little, practical tests by some clay-working concern would show more. Without such tests it is utterly impossible to give any reliable estimate of value.

304.—Bornite.—We have received from Mr. F. J. French, of Cuprum, Idaho, a fine sample of massive bornite from the Blue Jacket Mine, near Cuprum.

307.—Minerals from Montana.—H. B. C.—The black mineral is argentite, silver sulphide. It is recognized by its softness and shiny black streak. No. 2 is oxydized material from near the outcrop of a vein. It contains iron oxide, quartz and aluminous material. No. 3 is magnetic oxide of iron, magnetite. No. 4 is an ordinary mica schist carrying small garnets. It is of no value.

308.—Hydrocarbon.—F. L.—The black mineral is a hydrocarbon compound. It is not true asphaltum. Similar compounds are frequently found along the outcrops of rock ledges rich in bitumen or other hydrocarbon compounds. A complete analysis is necessary to show whether or not such substances are likely to be of economical importance. The

preparation of asphaltum varies somewhat according to the manner of occurrence of the asphaltic rock, but is not complicated. We cannot give a detailed description here. To dilute asphaltum petrolene, a by-product from the distillation of petroleum, is used.

310.—Qantitative Blowpipe Analysis.—While the use of the blowpipe calls for a considerable degree of skill on the part of the operator to insure accurate results in determining minerals, and while on account of the small amount of ore that can be used, even greater skill is required in blowpipe assaying, yet a blowpipe outfit is so light and easily carried that it will pay the ordinary prospector to be familiar with its capabilities. It cannot take the place of a regular assay outfit, but by careful manpulation will give good approximate results. It is naturally least suited for the determination of very low grade ores, but for determining the values of some bunch of mineral or rich streak it can be used to great advantage. The blowpipe assay outfit is particularly adapted to hasty preliminary work in a rough country remote from supplies where a man must travel fast or cannot bring away a large amount of material for the nearest assay office. An outfit with which a person having some skill in manipulation can get good results is not costly. A cheap blowpipe—Black's is as good as any—an alcohol lamp, a tallow blowpipe lamp, a blowpipe furnace, cupels, a good pocket assay balance, a button scale and the few reagents necessary should not cost over $35. For a convenient and practical handbook on the subject there is probably nothing better than Fletcher's "Quantitative Assaying with the Blowpipe," price $1.

QUESTIONS AND ANSWERS.

(Queries should relate to matters within our special province, such as mining, metallurgy, chemistry, geology, etc.; preference will be given to topics which seem to be of interest to others besides the inquirer. We cannot give professional advice, which should be obtained from a consulting expert. Nor can we give advice about mining companies or mining stock. Brief replies to questions will be welcomed from correspondents. While names will not be published, all inquirers must send their names and addresses. Preference will, of course, always be given to questions submitted by subscribers.—Editor E. & M. J.)

Celestite.—Will you kindly advise me whether there is a market for celestite—strontium sulphate—and also the price per ton?—T.

Answer.—There is practically no market for strontium sulphate at present. The mineral is known to exist at several points in the United States, notably in California and Ohio, and has been mined at different times. It was found, however, that the price which could be realized for it in England and Germany—the only countries where it could be sold—was so small that it would not pay to mine it. Two years ago the highest price that could be obtained was $2.50 per long ton delivered in Liverpool or Antwerp; and there has been no material change since.

Mercur District, Utah.—Will you please state the values of the different ores in the Mercur District, Utah, and the corresponding working costs.—C. C. B.

Answer.—It is not possible to give values of all the ores in the Mercur District, because data are lacking. The last available report of the Mercur Consolidated Gold Mining Company gave for the year 1899 an average recovery of $3.49 per ton of ore treated, and working costs of $2.27 per ton. You will find a good deal of information about the ores of this district in articles published in the "Engineering and Mining Journal," December 23d and 30th, 1899; and abouts costs of working in an article published July 21st, 1900.

Treating Quicksilver Ores.—Can you give me some information about the treatment of quicksilver ores in California? In place of using wood or other fuel, could not electrical heat be used for roasting the cinnabar? Is there any electrical furnace or retort made suitable for this purpose? There is plenty of water-power here.—H. M. W.

Answer.—We do not know of any electric furnace which has been used to recover quicksilver from cinnabar, nor of any experiments made in that direction. At any rate it has never been done on a commercial scale or in a practical way.

You will find articles on the reduction of quicksilver ores in California in "The Mineral Industry," Volume VII; in Italy in Volume VI, and in Spain in Volume IV of the same work.

Mining Engineer's Work.—I have just graduated from college, and am in doubt whether to take up the metallurgy of iron, or of copper, lead, etc. If you could, through your valuable journal, give me any advice, in this matter, as to the relative prospects (more especially in Canada) I would be greatly obliged.—S. M. T.

Answer.—Your decision must be influenced by your situation, connections and other considerations which an outsider cannot know fully. The iron industry in Canada is a growing one and will doubtless offer many opportunities for the future. On the other hand, the mines of British Columbia and Western Ontario also offer many opportunities for work in the line of copper and lead metallurgy. It seems to us that the future chances are about even; and we cannot give you positive advice on the subject.

Samarskite.—Is there any commercial value for a mineral called samarskite? Can you refer us to anyone who would be likely to use it or buy it?—H. E. O.

Answer.—Samarskite, according to Dana, is a complex mineral carrying niobium, cerium, yttrium and some other rare metals. It is found in some mines in North Carolina, and also in connection with monazite in that State. It has at present no commercial value, though the oxides of the cerium group which it contains might possibly make it available for the same purposes for which monazite is used—for making mantles for incandescent lights. We might refer you to the Marion Improvement Company, Harrisburg, Pa.; or Prof. F. A. Geuth, 103 North Front Street, Philadelphia. State Geologist Joseph Hyde Pratt, Chapel Hill, N. C., has investigated these minerals and could give you some information.

"Shoot" or "Chute."—People here are breaking their heads over the spelling of the word "chute" or "shoot." Which is right, an ore chute in the mine, a box chute in the mine, an ore shoot outside the mine, from which the ore may be loaded into wagons, or shoot in either case instead of chute?—J.

Answer.—Spelling in the English language is a very uncertain thing, and there is no absolute standard to which we can turn. The word "chute," so spelled, is usually applied to a box chute down which ore is run in the mines, to a chute used for loading ore into wagons or dropping it into bins; or generally to a box or passage for conveying ore or similar materials. "Shoot" is applied to a body of ore in the mines. It seems best to make a difference between the two—in spelling, if not in sound—and the distinction shown is the only one available. This is the practice in the "Engineering and Mining Journal," as adopted some years ago and since adhered to.

Corundum and Emery.—I am desirous of getting as full information as possible on the amount of corundum and emery, both in tons and value, that is used in the United States in the manufacture of emery and corundum wheels, and other purposes for which corundum and emery is used.—B.

Answer.—The consumption of corundum and emery in the United States in 1899 is given below, in tons of 2,000 lbs.:

	Tons.	Values.
Corundum, United States mines	970	$78,570
Emery, United States mines	3,000	150,000
Emery imported, grains	364	29,124
Emery imported, lump	8,327	116,493
Total supply	12,661	$374,187

The statistics for 1900 are not yet available. Little or no corundum is imported. Until recently corundum has not been mined to any extent outside of the United States. The discoveries in Ontario, and the opening of mines there promise a large production from that Province. The emery imported came chiefly from Turkey or Greece.

PATENTS RELATING TO MINING AND METALLURGY.

UNITED STATES.

The following is a list of the patents relating to mining and metallurgy and kindred subjects, issued by the United States Patent Office. A copy of the specifications of any of these will be mailed by the Scientific Publishing Company upon receipt of 25 cents.

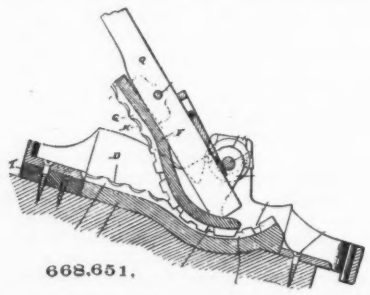
Week Ending February 26th, 1901.

668,629. DREDGE. Louis A. Desy, Montreal, Canada. The combination with a dipper-arm, a drum, and a backing-cable, of an automatic brake mechanism, to check the paying out of the cable on the descent of the dipper-arm beyond a predetermined speed.

668,638. IMPLEMENT FOR USE WITH MOLTEN METAL. Albert L. Haasis, New York, N. Y. A ladle for use with molten metal consisting of a body of molded graphite having a metallic strengthening rod or bar molded therein, one end of the rod or bar being covered to protect it from the action of the molten material, and the other left uncovered so as to permit it to expand and contract independently of the graphite body.

668,643. AMALGAMATOR. Thomas H. Hicks, Fort Wayne, Ind. The combination of a rotatable retort to contain pulverized ore and mercury, means for heating the mixed ore and mercury in said retort, and a partially rotatable pipe arranged within said retort for drawing off rising mercury-vapor from said retort and for emptying said retort.

668,651. CRUSHER. William H. Lingo, Hollyville, Del. In combination, a trough, a jaw acting in conjunction therewith and means for pivoting the jaw comprising lugs formed on the jaw, bushings set



668,651.

in posts of the body, eccentric bearings for the bushings, the periphery of each bushing being polygonal and fitting the corresponding holes in the standards, and a strip for each bushing fitting over the edges of the standard.

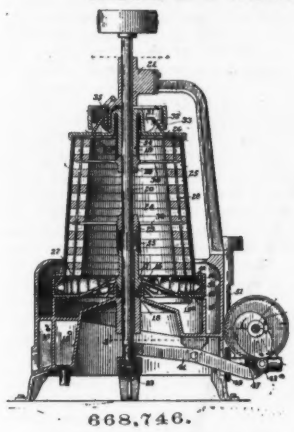
668,669 and 668,670. PROCESS OF MAKING EXPANDED METAL. Herbert E. White, Brooklyn, N. Y., assignor to International Metal Lath Company, of New Jersey. The process of treating previously-slitted metal sheets for expanded metal structures, which consists in subjecting the unslitted ribs thereof to a displacing action proportionate to the expansion desired without twisting of the ribs, and thereby producing proportional expansion throughout all the slitted portions.

668,671. METHOD OF OBTAINING SODIUM SULPHATE FROM BRINES. Harry Baker and Edward Haworth, Runcorn, England. The process consists in removing from the brine all its salts except sodium chloride and sodium sulphate, then evaporating the brine so as to cause practically pure sodium chloride wetted with a solution containing a proportion of sodium sulphate to be deposited, and continuing the evaporation in a series of separate vessels so as to cause the proportion of sodium sulphate to sodium chloride in the brine wetting the salt deposited to increase with each partial evaporation until the brine approaches or becomes saturated with sodium sulphate.

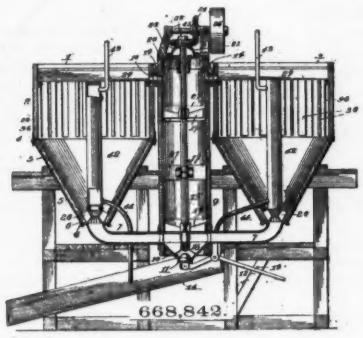
668,742. ORE-SEPARATOR. William A. Redding, Macon, Ga. The combination with a body of water and means for giving its surface stratum lateral motion, of means for discharging above the plane of the

surface material to be separated, and means for directing upon the falling material an air-current approximately parallel to said stratum.

668,744, 668,746 and 668,747. CENTRIFUGAL SEPARATOR. Phineas H. Adams, Chicago, Ill., assignor to Edmond C. Peck, same place. The combination of a rotatable treatment vessel, an independently-rota-



668,746.



668,842.

table deflector therein, and transversely-movable bearings in which the vessel and deflector are mounted, whereby a transverse movement of both is permitted.

668,745. CENTRIFUGAL SIZER. Phineas H. Adams, Chicago, Ill., assignor to Edmond C. Peck, same place. The combination of a rotatable treatment vessel, an independently-rotatable partition therein, openings in said partition through which material may be delivered to the inner portion of the vessel, an opening in the vessel upon the opposite side of the partition for the discharge of finer particles, and peripheral openings for the discharge of coarser particles lying in substantially the same place as the periphery of the partition and in proximity thereto.

668,787. APPARATUS FOR FEEDING LIQUID AND SOLID PULVERIZED FUEL INTO FURNACES. Ernest A. Vetillard and Philippe E. Scherding, Jr., Paris, France. The combination with an injector, a liquid-fuel-supply pipe and a steam-supply pipe leading into the injector, an injector communicating with the furnace and having its axis perpendicular to the axis of the injector and having an annular space into which the mixture of steam and liquid fuel is delivered.

668,791 and 668,792. MECHANISM FOR SEPARATION OF CONDUCTORS FROM NON-CONDUCTORS. Lucien I. Blake, Lawrence, and Lawrence N. Morscher, Neodesha, Kan. In an apparatus for effecting the separation of the conducting particles of a mixed mass from the non-conducting particles of the same, an electrically-charged repelling-surface of different potential from that of the mass, and means for conveying said mass into contact with said repelling-surface.

668,803. CRUCIBLE AND CRUCIBLE-FURNACE. Alleyne Reynolds, Sheffield, England. A crucible-furnace having a refractory hearth with a recess therein, an open-bottom crucible seated in the recess, a removable plug in the hearth below the recess and having a tap-hole through it, and a closure for the lower end of the tap-hole.

668,828. ROPE SOCKET FOR WELL-DRILLING TOOLS. George F. Bell, Sistersville, W. Va. A device comprising a shank provided with an annular groove and having a longitudinal bore extending from the groove to one end of the shank, said shank being provided at the opposite side of the groove with a longitudinal socket.

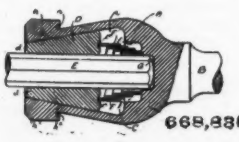
668,830. ROCK-DRILL CHUCK. William C. Docharty and Reinhard Wagner, near Germiston, South African Republic, assignors to Chapin & Manion, Limited, Johannesburg, South African Republic. A rock-drill chuck comprising a body formed with a taper cavity for the reception of gripping-jaws, and with a recess in rear of the cavity and forming a continuation of the same for the inner end of the drill, a series of tapered jaws mounted in said cavity and a single involute spring seated in said cavity in rear of the jaws with its base or convolution of greatest diameter bearing on all of the jaws at their inner ends, said spring arranged to surround the inner end of the drill when the latter is seated in the recess.

668,842. APPARATUS FOR ELECTROLYTICALLY EXTRACTING AND DEPOSITING GOLD AND SILVER FROM THEIR ORES. Albion M. Rouse, Denver, Colo., assignor of one-half to William G. Shedd and Frank Brooks, same place. The combination of a series of tubs adapted to contain the ore-pulp to be treated, anodes and cathodes arranged in said tubs, an agitation-tube having communication with said tubs at the upper and lower ends thereof, and an agitator located in said tube.

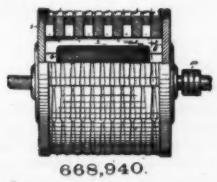
668,852. ORE-CONCENTRATING APPARATUS. Arthur A. Francis, Bergamo, Italy. The combination of a flat transversely-inclined table, means for feeding ore to the highest point at one end of the table, means for constantly delivering water along the highest edge of the table, means for imparting a longitudinally-reciprocating movement to said table so as to stratify the concentrates and shake them over the end of the table opposite to the feed, longitudinal riffles forming grooves on the surface of the table.

668,927. DUMP-CAR. Thomas R. McKnight, Aurora, Ill., assignor to The Western Wheeled Scraper Company, same place. The combination of a car-bed, a sideboard therefor, a swinging support for said side-board carried by the car-body, and means for rocking the side-board upon its support when it is raised to move its lower edge outward from the car-bed.

668,940 and 668,941. METHOD OF MAGNETICALLY SEPARATING ORES. Guy H. Waring, Tyrone, Pa. The method consists in introducing the mixture into a magnetic field, having mechanically-graduated



668,830.



668,940.

spaces of equal magnetic potentials, between surfaces of alternate polarity, within which spaces the particles may freely arrange, assort and move themselves in the line of magnetic flow according to the direction of their longer diameter.

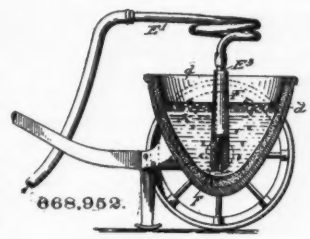
668,952. DESULPHURIZING COPPER MATTE. George C. Carson, Castena, Cal., assignor of one-half to Horace W. Brooks, Kendon, Cal. In combination with a pot for receiving molten metal, a flexible hose for conveying air, in combination with a rigid extension thereof having a coil, and adapted to be inserted into said pot and the metal contained therein, said coil being arranged over the pot.

668,960. STORAGE APPARATUS. Charles Piez and Robert H. Beaumont, Philadelphia, Pa., assignors to the Dodge Coal Storage Company, Naugatuck, Conn. The combination of a fixed structure, a pivoted structure arranged to swing thereon, the said pivot having an open center, and elevating and conveying mechanism on said pivoted structure, said mechanism arranged to elevate material through the open center of the pivot.

668,980. ORE-CONCENTRATOR. Christoffer A. Christensen, Oretown, Ore. A pan having its sides flared outward and bottom formed of an integral sheet bent or struck up into straight, transverse, parallel ridges and grooves forming riffles, and having a series of holes in each riffle, and a series of triangular baffle-plates arranged oppositely, in pairs, and set vertically parallel with the riffles, and extending from the sides inward toward each other.

669,007. PROCESS OF MANUFACTURING ZINC-AMALGAM PLATES. George T. Evanson and Albert J. Shinn, Philadelphia, Pa. assignors to Herman J. Dercum, trustee, same place. The process consists in placing an amalgam of zinc with a supporting-grid in a mold and subjecting the same to pressure, and applying heat to said mold and to the amalgam during the operation.

669,012. BLAST-FURNACE. Julian Kennedy, Pittsburg, Pa. A blast-furnace having a masonry shaft with a surrounding metal shell, a



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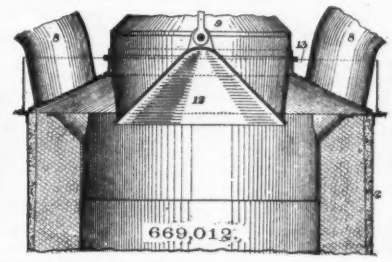


669,012.

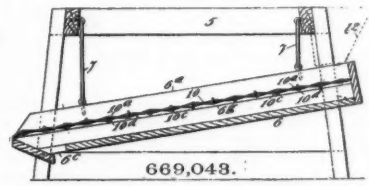
hopper, and a dome-shaped metal top springing from said metal shell and connected to the hopper.

669,019. PROCESS OF TREATING FURNACE SLAG. Samuel W. Vaughan, Johnstown, Pa. The process consists in mixing together about equal weights of such slag or cinder and sulphuric acid, together with 5 to 25 per cent. of the slag weight of lime, and separating the resultant lime sulphate and silica from the soluble sulphates.

669,030. PROCESS OF MAKING PICRATES. Adam C. Girard, Paris, France. The process consists in dissolving picric acid in a fatty oil, and then adding a base.

669,038. CONCENTRATOR. Samuel W. Traylor, Denver, Colo. The combination of a vibratory concentrating-table provided with an opening in its rear portion, a screen covering said opening, a water-chamber attached to the table below the screen, and means independent of the table for imparting impulses to the water in said chamber whereby it is adapted to pass upward and downward alternately through said screen.

669,043. CONCENTRATING APPARATUS. Adolph K. Cross, Denver, Colo. The combination with a suitable frame, of a table composed of flat strips having their adjacent side edges in contact, and sepa-



669,043.

rated transverse wires or rods with which the said strips are interwoven to form cells having side openings, but no vertical outlet, and means for imparting a vibratory movement to the table at right angles to the length of the longitudinal strips.

669,058. ELECTRIC AMALGAMATOR. Louis H. Barricks, San Francisco, Cal., assignor of one-half to Jesse G. Tunnicliffe, same place. The combination with a sluice-box, of a box or receptacle including two compartments and a permeable partition separating one compartment from the other one of said compartments adapted to contain a saline solution and the other mercury, said mercury-compartment having a horizontal extension from the upper edge of one of its walls and said extension having a retaining-flange to provide the compartment with an extended surface of mercury contact of shallow depth.

669,060. GRINDING-MILL. Thomas Cascaden, Jr., Waterloo, Ia. The combination with an outer grinding-shell and an inner, revoluble, grinding-cone, of a base provided with a laterally-extending supporting-flange, discharge-openings and a conveyer-ring.

GREAT BRITAIN.

The following is a list of patents published by the British Patent Office on subjects connected with mining and metallurgy.

Week Ending February 2d, 1901.

746 of 1900. STAMP MILL. D. B. Morison, Hartlepool. Improvements in the inventor's stamp mills that have a water buffer in the stem.

791 of 1900. ARTIFICIAL STONE. H. Schurholz. Hervest-Dorsten, Germany. Method of making artificial stone out of quicklime and sand.

817 of 1900. PYRITES BURNER. A. W. Tangye, Northwich. A furnace for burning sulphides for sulphuric acid plant, with a hot-air blast, thus making it unnecessary to have a roasting furnace with separate fuel.

1810 of 1900. PRODUCING BORIDES. R. C. Baker, London. Production of boride of iron or nickel and calcium carbide in an electric furnace, the boride to be used in hardening steel.

1955 of 1900. MINERS' LAMP. J. Crawford, Alloa. Miners' lamps with internal jet of oxygen to increase the light.

21,979 and 21,980 of 1900. MULLER. A. C. Calkins and F. W. Brown, Los Angeles, Cal. Improved operating device for gyratory and oscillating mullers.

Week Ending February 9th, 1901.

996 of 1900. STIRRER FOR ROASTING FURNACE. L. T. Wright, Keswick, Cal. Improved rotary stirrers for the McDougall roasting furnace.

17,190 of 1900. ELECTRIC FURNACE. A. Simon, Bordeaux, France. Electric furnace for making manganese and its alloys, using calcium fluoride as electrolyte.

20,968 of 1900. CONCENTRATOR. T. R. Jordan, New York, U. S. A. Improvements in the inventor's ore concentrators.

PERSONAL.

Mr. Andrew Carnegie has gone to Europe. He expects to return to the United States in October next.

Mr. James Park has succeeded the late Prof. Ulrich as director of the School of Mines at Otago, N. Z.

Mr. Edwin E. Chase, mining engineer, has removed his office to No. 824 Equitable Building, Denver, Colo.

Mr. R. Walkers, of the Showers Consolidated Mining Company, Diamond, Utah, has been in San Francisco.

Mr. Duncan McVichie, manager of the Bingham Copper and Gold Company, started for the mines at Cochiti, N. M., March 9th.

Mr. Geo. H. Robinson, head man of the Montana Ore Purchasing Company, returned to Butte on Friday after a week's visit to Zion, Utah.

Mr. W. B. Dillingham recently returned from San Francisco to Vladivostok, Siberia, to superintend quartz mining operations in the interior.

Mr. Arthur J. Clarke, who is interested in the Japan Mines, the Alta and other mining properties near Telluride, Colo., has been in Milwaukee, Wis.

Col. E. B. C. Hambley, president of the Whitney Reduction Company, of Gold Hill, N. C., has returned from New York and Pittsburg, where he has interested capital in the company.

Mr. E. J. Garwood has been appointed to the Yates Goldsmid chair of geology and mineralogy at University College, London, in succession to Prof. T. G. Bonney.

Mr. James Neill has gone to Butte in connection with one of the lawsuits now up between the Montana Ore Purchasing Company and the Amalgamated Copper Company.

Mr. Richard Eames, Jr., general manager of the Arizona Gold and Copper Company, has gone to Patagonia, Ariz., where he will put in operation the smelter belonging to this company.

Capt. J. R. De La Mar is in California, where he will remain for some time. During his stay he will visit his copper property in Shasta County and his gold mine in San Bernardino County.

Mr. Forbes Rickard, of Central City, Colo., left during the past week for New Mexico points, where he will examine mining properties for the next three months, in the interests of a syndicate.

Mr. T. E. Schwartz, mining engineer of Denver, Colo., has been in New York on business connected with the Iron Silver Mining Company, of Leadville, Colo., of which he is manager.

Mr. J. H. Rogers, general agent for the White Pass & Yukon Railway at Dawson, N. W. T., after spending a vacation in British Columbia, left for the North recently for the purpose of resuming his duties.

Mr. Wm. Magenau has resigned his position with the Compania Minera de Penoles of Mapimi, Mexico, and is now engineer and assistant superintendent for the Columbia Lead Company of Esther, Mo.

Mr. P. J. Donohue, with Wm. Murdock, mineralogist and assayer for the Annie Laurie Mine at Gold Mountain, are visiting Stateline, Utah, this week, making examinations of several properties for Eastern investors.

Mr. G. Fowler, a mining man, of Dawson, N. W. T., who has been spending the winter in Victoria, B. C., has left for the North. He is the possesor of extensive mining properties on Bonanza and Eldorado creeks.

President Coram, of the Bingham Copper and Gold Company, after spending several weeks looking after the interests of his concern and seeing the new smelter in satisfactory operation, left for his home in Boston, March 9th.

Mr. J. K. Carpenter, who recently returned to Oakland, Cal., from Sumatra, where for 8 months he investigated propositions, was one of the few saved from the wreck "Rio de Janeiro," off San Francisco. He lost his papers and notes.

Mr. J. H. Ross has been appointed by the Canadian Government Commissioner for the Yukon Territory, to succeed Mr. J. W. Ogilvie, who asked to be relieved. Mr. Ross was recently Commissioner of Public Works for the Northwest Territory.

Dr. J. K. Rees and Prof. H. M. Howe, of the departments of astronomy and metallurgy of Columbia University, were recently decorated as Chevaliers of the Legion of Honor by the President of the French Republic for services in connection with the Paris Exposition.

It is announced that the office of general manager of the Sloss-Sheffield Steel and Iron Company, held by Priestly Toulmin, has been abolished, and that Mr. Thomas C. Culverhouse is appointed general superintendent of the mining department. Mr. Toulmin is to be chief engineer of the company.

OBITUARY.

Simeon Wenban, an old California pioneer, died at his residence at San Francisco March 4th, aged 76 years. Mr. Wenban was born in Kent, Eng., and when very young came to California. He mined extensively in California and Nevada. For the past 35 years he was the leading owner and manager of the Mount Tanabo silver properties at Cortez, Nev. His fortune is estimated at $1,500,000. A widow and 2 daughters survive him.

John A. Faull, mining engineer of San Francisco, died at his residence in that city March 4th, aged 63 years. He was a native of Cornwall, Eng., and was for many years connected with the Keystone Mine, of Amador County, Cal. The original Amador, known as the Little Amador, was purchased by Mr. Faull for a nominal price and the property was developed under his management to such a point that it was sold to an English company for $600,000. He leaves a handsome fortune to his 5 children.

John Hislop, an explorer and civil engineer, was killed while attempting to board a moving train in Chicago recently. In 1889 he became connected with the Great Plains Water Company, of Colorado. In connection with his work for this company he explored some of the wildest portions of the Great Canyon of the Colorado. In 1898 he took a position with the White Pass & Yukon Railway Company and supervised much of the preliminary work for the line over White Pass. He resigned from the company last January, being then assistant chief engineer.

Capt. William H. Stevens, at one time a prominent miner in Colorado, died at his residence in Highland Park, a suburb of Detroit, Mich., March 6th, aged 80 years. In company with L. Z. Leiter, of Chicago, Capt. Stevens in 1875 organized the Iron Silver Mining Company, of Leadville, Colo., which operated one of the first lead and silver mines in the State. For 20 years Capt. Stevens lived in the Lake Superior regions, and during that time he located about 100,000 acres of lumber and mineral lands for Eastern capitalists. He was born in Geneva, N. Y.

Frederick F. Coffin, a well-known mining man and engineer of San Francisco, died at his residence in that city March 3d, aged 69 years. Mr. Coffin was widely known through his connection with the Comstock mines. He was born in Cincinnati, O., in 1832 and landed in San Francisco in 1849. After prospecting in several counties he returned to the East but went West again in 1858 and from that time until 2 years ago he was connected with various mines, among them were the Bluewing, Tuscarora, Juniper, Brunswick, Vivian, Grand Prize, Leopard and Griffith. A widow, son and daughter survive him.

Edouard Delamare-Deboutteville, who died at Fontaine-le-Bourg, France, March 16th, aged 45 years, had achieved high reputation as an engineer. He was attached to the important firms of Creusot in France, and Cockerill in Belgium, and was a Chevalier of the Legion of Honor. He was an excellent linguist and an oriental scholar, speaking English well, besides several other languages. But his chief claim to distinction was his invention, in collaboration with M. Malandin, of the well-known Simplex gas engine. At the Paris Exposition in 1889 M. Delamare had a 100-H. P. single cylinder Simplex engine, the largest at that time of its kind in Europe. In the 1900 Paris Exhibition he showed, in conjunction with the Cockerill firm, an engine, also single cylinder, giving 600 H. P. when driven with blast furnace gases. Some years ago at Paris he read a paper describing his engine before the Institution of Mechanical Engineers. This motor was first made by the Maison Matter at Rouen, but its manufacture has now been taken up by the Creusot and Cockerill firms, especially in large sizes for blast furnace gases. M. Delamare-Deboutteville was a man of more than ordinary attainments and talents, and his loss will be keenly felt in the scientific and engineering world.

SOCIETIES AND TECHNICAL SCHOOLS.

Lake Superior Mining Institute.—The meeting of this society at Houghton last week was one of the most successful in its history. The attendance was large and some of the papers presented were of unusual interest. At a special session on March 6th the following officers were elected: President, W. J. Olcott, Duluth; secretary, A. J. Youngbluth, Ispheming; treasurer, George H. Abeel, Hurley; vice-president, William Kelly, Vulcan. The plant of the Tamarack and the Calumet & Hecla companies at Calumet were visited after the end of the regular sessions at Houghton. We hope to print next week a detailed account of the meeting.

Engineers' Club of St. Louis.—At the regular meeting on March 6th Messrs. W. H. Henby, Truman M. Post and Louis Bendit were elected to membership. The subject of the evening was an informal address on "The Development of the Steam Engine," by Prof. J. H. Kinealy. The speaker gave a very interesting talk, fully illustrated by lantern slides, and he reviewed the various forms of engines from the earliest known down to the latest developments. Discussion was participated in by Messrs. Ockerson, Bryan, Van Ornum, Borden and Humphrey. For the next meeting announcement was made of a paper by Mr. S. Bent Russell, principal assistant engineer, water-works extension, on "Bank Revetment Work at the Chain of Rocks Pumping Station," illustrated by lantern slides.

INDUSTRIAL NOTES.

The Chicago, St. Paul & Missouri Railway has placed a contract for 36 bridges with the American Bridge Company.

The Bridgeport Pipe Works, at Bridgeport, Ala., a $500,000 plant, will be dismantled, moved to Chattanooga, Tenn., and consolidated with the pipe works there. Both plants belong to the United States Cast Iron Pipe Company.

Mr. D. D. Lewis, who has been for several years manager of the Bessemer department of the Loraine Steel Company's plant, has resigned to accept the general superintendency of the steel department of the Lake Superior Power Company at Sault Sainte Marie, Ont.

At the annual meeting of William Jessop & Sons, of Sheffield, End., manufacturers of high-grade special steels, it was announced that the directors are about to establish works for certain branches of their business in the United States, where the crucible steel makers had combined, compelling the British firm to take this step.

The Dominion Copper Company in the Boundary District, B. C., has placed orders for machinery which will cost in the neighborhood of $20,000. The James Cooper Company, of Montreal, secured the order for the compressor, which is to be delivered in 3 months, while the engines will be made by the Bradley Engineering Company, of Spokane, Wash.

The Alpha Mining and Copper Smelting Company has been organized at Cincinnati, O., with a capital stock of $500,000, to erect and operate the Garretson pyritic furnace, under patents owned for roasting, smelting and converting sulphide ore. L. H. Weissleder is the president. The company claims to be able to profitably handle low-grade sulphide copper ore.

The Robert Aitchison Perforated Metal Company, of Chicago, Ill., reports an excellent run of business. It has recently made shipments to Kentucky, Wisconsin, Utah, Nebraska and many other States. Shipments cover material for railroads, mines, mills and agricultural implements and other industries. Among recent inquiries are some from Australia, Germany and the West Indies.

Through its London agents the Baldwin Locomotive Works, of Philadelphia, Pa., has secured a contract from the Guayaquil & Quito Railway Company, of Ecuador, for 4 narrow-gauge freight engines. Four other engines for the same road have lately been turned out at the Baldwin Works. The Ecuador Development Company, of New York City, is making the purchases for the road.

The H. K. Porter Company, of Pittsburg, Pa., builder of light locomotives, recently received an order for 9 compressed air locomotives for the works of the Anaconda Copper Company at Anaconda and Butte, Mont. The H. K. Porter Company will furnish a complete power plant, air compressors, power stations, pipe lines and charging stations, etc. The locomotives will weigh 15 tons each, and be of standard gauge.

The Keuffel & Esser Company, of New York, has established a branch house at 303 Montgomery street, San Francisco, which will carry a full stock of the company's drawing materials and surveying instruments. John R. Carr, which firm has been acting as the selling agent in San Francisco for some years, and Mr. W. E. Holcomb, traveling representative in that territory, will be in charge of the new San Francisco branch.

The Colorado Iron Works of Denver, Colo., is completing an order for Usine de Desargentation, Societe Anonyme, Belgium. It consists of a 42 by 120-in. silver-lead smelting furnace of the latest Colorado design. It will have a capacity of 100 tons a day. The order came unsolicited. The company is also building a 200-ton concentrating plant for the Union Copper Company of Gold Hill, N. C. It includes the largest size crushers and 12 Bartlett concentrators. The same works is also sending out a

crushing, roasting and concentrating plant to the San Luis Mining Company of Mexico, consisting of 4 Bartlett concentrators, a White-Howell roaster, a rotary drier, 3 1,200-lb. 5-stamp mills and other equipment including a Corliss engine. The company is also building a 400-ton matte crushing plant for the Selby Smelting and Lead Company of Selby, Cal.

TRADE CATALOGUES.

The Atlas Pipe Wrench Company, of New York City, is sending out copies of testimonials received from users of the Atlas wrench. These testimonials speak very flatteringly of the wrench and point out its good points.

The Broderick & Bascom Rope Company, of St. Louis, Mo., is sending to customers a neat little advertising novelty in the shape of a celluloid stamp case with calendar and price-list of the company's patent steel rope on the back. This is an advertisement which is likely to be kept always in sight.

"Light, Heat and Power by Gas from Wood or Other Organic Substances" is the title of a 32-page pamphlet sent out by Jules De Clercy, of Toronto, Ont. The pamphlet mentions the increasing use of gas as a source of heat or power and then describes Riché gas, which, it says, can be made from any class of fuel. Another advantage claimed for Riché gas is that the elements of the plant required are small and hence the process can be used for generating amounts of gas producing from 2 to 100 H. P. The parts are easily replaced, while the gas produced is said to give great heating power and to require no purifying, hence is very cheap, while its manufacture is attended with no danger. The process of manufacture is described and the results of some thorough tests in France are given in detail.

MACHINERY AND SUPPLIES WANTED.

If any one wanting machinery or supplies of any kind will notify the "Engineering and Mining Journal" what he needs he will be put in communication with the best manufacturers of the same.

We also offer our services to foreign correspondents who desire to purchase American goods of any kind, and shall be pleased to furnish them information, catalogues, etc.

All these services are rendered gratuitously in the interest of our subscribers and advertisers; the proprietors of the "Engineering and Mining Journal" are not brokers or exporters, and have no pecuniary interest in buying and selling goods of any kind.

GENERAL MINING NEWS.

At the annual meeting of the Tennessee Coal, Iron and Railroad Company at Tracy City, Tenn., March 12th, the following directors were elected: James T. Woodward, James H. Smith, Cord Meyer, E. R. Chapman, D. H. Bacon, Guy McCoy, Edward Graves, William Barbour, A. B. Boardman, F. H. Benedict, H. S. Manning, Oliver H. Payne, Benjamin F. Tracy, T. S. Weatherbee, all of New York City; J. J. McComb, of Dobb's Ferry, N. Y.; N. Baxter, Jr., of Nashville, and Walker Perry, of Birmingham, Ala. The members of the old board who were not re-elected are James Bonson, Col. H. M. Shook, W. S. Swinee and David J. McComb, of New York. The directors will meet in New York City to elect officers for the ensuing year.

Oil Exports.—In February the United States exports were: Crude, 8,090,026 gals.; naphthas, 1,811,310 gals.; illuminating, 47,768,340 gals.; lubricating and paraffin, 5,028,109 gals.; residuum, 1,911,882 gals.; total, 64,609,667 gals., against 64,291,406 gals. last year. In the two months ending February 28th, 1901, the mineral oil exports aggregated 150,141,418 gals., which compares with 139,630,082 gals. last year, showing an increase in 1901 of 10,511,336 gals., or 7%.

ARIZONA.

Yavapai County.

Vulture.—It is stated that this old gold mine has been sold to W. B. Troy and associates, of New York City. The former owner was the New Vulture Mining Company, composed of Henry M. Love, president, and others of Chicago. The Vulture was once a rich and famous mine, but the high-grade ores were worked out. The New Vulture Company proposed to put in a large tailings plant to treat the accumulated tailings from the old mill; also construct a pipe line from the Hassayampa River, 13 miles distant and erect a 100-stamp mill. The company did considerable advertising in the East 2 years ago. It was capitalized at $1,000,000 and presumably considerable stock was sold. According to a local paper the only work the company carried out was the erection of a little cyanide plant which Mr. Love has since been operating. Without a pipe line the only water available is a small amount from the upper levels of the mine.

McCabe.—This mine at McCabe, after having been closed down several months, is shipping a car-load of ore per day, while the milling ore is allowed to accumulate at the mine. The smelting ore is said to run from $60 to $80 per ton in gold, silver and copper. The ore is a copper and iron sulphide. A new mill may be erected this season. The main shaft is 700 ft. deep, the main ore production coming from the 500 and 600 levels.

CALIFORNIA.

Amador County.

(From Our Special Correspondent.)

Fremont Consolidated.—At these mines north of Amador City the foundations for an air compressor have been laid and the old shaft is being pumped out. The work on the new shaft is being pushed. The lowest workings are 450 ft. deep. Arrangements are being made to erect a mill. A large force of men is employed.

Butte County.

(From Our Special Correspondent.)

North of the town of Honcut 160 acres of the Joseph Faran place has been bonded to a dredger company and it is reported that a Keystone driller will be put in testing land at the Santry Place east of Honcut.

Golden Trout.—At this mine on the south fork of the Feather River, 4 miles from Lumpkin, 25 men are employed under Al. Hamilton. An air compressor is being put in.

Calaveras County.

(From Our Special Correspondent.)

Alpine & Pajaro.—These mines, about 8 miles east from San Andreas, near Washington Ranch, have been bonded to E. C. Rigney & Company, who have ample means to develop the property. Work will start at once.

Ilex.—This old mine at Rich Gulch, is being reopened by J. O. Stewart. About 13 years ago some development work was done and a mill installed and several buildings were erected, but lack of capital oblige the owners to close down.

El Dorado County.

(From Our Special Correspondent.)

Church.—At this mine, 2 miles southeast from El Dorado, only 1 water skip is being run and the water is now below the 800-ft. level. The 3-compartment shaft is down 1,200 ft., crossing the vein at the 400 ft. and requiring a 300-ft. crosscut in the bottom. A 10-stamp mill, an air compressor, pumps, concentrators, etc., comprise the plant, which is run by 4 water wheels.

Kern County.

(From Our Special Correspondent.)

Randsburg District.—The Blackhawk Mill is running constantly, the last cleanup was on a 48 ton run of ore from the Stamford, which netted the owners $2,500, while 15½ tons of ore from the Gold Coin yielded $53 per ton. The Red Dog Mill is also busy on ore from the mines in the vicinity. The last run was from the Butte and the Buckboard mines. There is plenty of work ahead to keep this mill busy for some time.

Mariposa County.

(From Our Special Correspondent.)

Mariposa Mining and Commercial Company.—Among other claims this company has resumed work on the Lewis, located on the Grant about ½ mile northwest from Princeton. The shaft is down 250 ft., at which point a station is being cut and drifts run. The ore is said to be high grade. Thirteen men are working under the superintendency of L. Dinkle.

Nevada County.

(From Our Special Correspondent.)

Pennsylvania Gold Mining Company vs. Grass Valley Exploration Company.—The suits between these companies over the W. Y. O. D. Mine have been set for April 16th before the United States Circuit Court at San Francisco. This will be the original hearing of the suits.

Standard.—The tunnel now in 700 ft. on this property on Slate Creek near Grass Valley is being continued. The tunnel is reported to be on a 2½-ft. ledge which mills $11 per ton. The owners contemplate the erection of a mill. H. Thomas is superintendent.

Placer County.

(From Our Special Correspondent.)

Bob Lewis No. 2.—This property, comprising the blue channel between the Hidden Treasure and the Red Point drift mines, has been sold to H. M. Jarvis, the representative of Philadelphia capital, for a price said to be $20,000. The Red Point Mine yielded big pay down to the line of this claim. A tunnel will be run from Drummond Canyon to tap the channel.

San Luis Obispo County.

(From Our Special Correspondent.)

Quicksilver Mines.—The Mahoney Mine, now owned by Guild & McKeon Brothers, is being worked with a small force. The Duborst Mine is being operated by the Karl Quicksilver Mining Company. The 60-ton furnace being erected will be ready for ore in a short time. A large force of men is busy. The old tunnels are being cleaned out and retimbered and new buildings have been erected.

Shasta County.

Trinity Copper Company.—The notice filed by this company with the Boston Stock Exchange says that Thomas W. Lawson is president, Wm. J. Riley vice-president, Allen Arnold treasurer, and Homer Albers secretary. Directors are the above, with Henry H. Arnold, Louis Auerbach, Frank E. Chase, Arthur P. French and Kenneth K. McLaren. American Loan and Trust Company, Boston, is transfer agent and International Trust Company registrar. The listing notice states that the properties owned by the company are situated in the county of Shasta, California, and consist of some 700 acres of mining ground known as the Shasta King and Lost Desert consolidated group of mines and the King Copper group of mines, and of a smelter site upon the Sacramento River, near the town of Copley, consisting of about 422 acres. The main line of the California & Oregon passes through a portion of the property in the immediate vicinity of the proposed smelter site. The expert's report, dated February 8th, 1901, states that he has visited the properties and has made a thorough examination and sampling of the section where the company's work has been concentrated, showing over 2,000 ft. of exploration work, consisting of tunnels, drifts and one upraise. This work is mostly confined to the Shasta King and Lost Desert claims (after which the former group has been named), where a large body of ore carrying copper, gold and silver values is exposed. Samples taken all over this ore body, which gave an average of 3½% copper and $2 in gold and silver values.

(From Our Special Correspondent.)

Bully Hill Smelter.—The first kiln of ore has been successfully roasted, the process occupying about 2 weeks. The smelter will not begin operation for several weeks. Work at the mines has been delayed on account of short supply of timber, but as a number of teams are now hauling work will be resumed with a full force.

Tehama County.

(From Our Special Correspondent.)

In the western portion of this county a very wide ledge of fair-grade ore is reported to be uncovered.

Trinity County.

(From Our Special Correspondent.)

Golden Jubilee.—This mine is opened up by 3 tunnels on the vein, the lowest being run from the mill. The plant consists of 2 3½-ft. Huntington mills, concentrators and a cyanide plant having a capacity of 20 tons per day. The cost of cyaniding the tailing is about $1 per ton, including cyanide, labor, royalty, etc. About 50% of the gold values are saved in the mill.

Sweepstake Mining Company.—This company recently made the first payment on the Whitmore & Young property on Oregon Gulch Mountain. As soon as weather permits, the company will construct the ditch to the mine from Canyon Creek.

Wagner.—This property is opened up by 2 tunnels and is equipped with a 10-stamp mill and concentrators. The tailings are impounded and later will be cyanided. The tailings of the Yellow Rose of Texas in the same district are also being impounded and will be cyanided.

COLORADO.

Arapahoe County.

Denver-Salt Lake Railway Tunnel Company.—It is stated that arrangements have been made to organize this company. It will take over the property of the Atlantic & Pacific Railway Tunnel Company, Brick Pomeroy's scheme, which was recently sold at public auction for $4,100 to James E. Ratchford, of Syracuse, N. Y.

Boulder County.

Wood Mountain Gold Mining Company.—Dr. George M. Gray, of Kansas City, president of this company; J. O. Fife, of the same place, a stockholder; Vice-President J. E. Norling, of Chicago; C. T. Taylor, of Chicago, and Stephen Sharp, of Kansas City, attended a meeting of the company at Boulder last week, when Manager J. A. Teagarden's management for the last year was approved and development of the property at Wall Street ordered for the ensuing year.

Clear Creek County.

(From Our Special Correspondent.)

Consolidated Stanley Mining Company.—Because of failure to ratify the sale in a reasonable length of time this property recently reverted back to the original owners, the Montreal syndicate surrendering possession. When this was done an effort was made by conflicting interests in the old company to obtain control. A temporary receiver was appointed to take care of the first payment of $50,000. President J. T. King came out from Illinois, took possession and then closed down the mine until the tangle could be unraveled.

Mary J. Mining Company.—This company has been incorporated to work the DeLesseps Mine near Idaho Springs. It is one of the old-time mines, but has been idle for a number of years. Parties who formed the present company took

charge of the mine, which has a long adit and a shaft. A cross-cut into the hanging wall opened into 15 in. of mineral that runs 2 oz. gold, 18 oz. silver and 52% lead. The mill ore on which the adit was driven is from 6 to 7 ft. wide.

Gilpin County.

(From Our Special Correspondent.)

On Wednesday, March 6th, C. F. McNerney, A. T. Bellows and W. H. Coltrin lost their lives by suffocation and bad air in the Molepole Tunnel at Apex. Fire started at the tunnel outbuilding and the miners were unable to get out. The property was operated by the Round Hill Mining Company, for whom McNerney was the superintendent. Mr. McNerney was well known in Leadville and other camps and was instrumental in introducing considerable capital into the Pine Creek District.

Mining Deeds and Transfers.—Le P. Davis to F. & A. Mayer, portions of ground in sections 22 and 23; A. Graves to Practical G. M. & L. Company, Silver Tip and Klondyke Lodes in Enterprise District; J. M. Ross to A. C. Reckling, the Shiller Lode in Gregory District; W. A. Hopkin to E. M. Baldwin, the National Refinery and Willie Lodes in Enterprise and Lake Districts; G. H. Hogan to M. S. Appel, ¼ interest Oranoake Lode, Nevada District; E. T. Dunlevy to L. B. Suydam, Legal Tender Lode in Hawkeye District; H. L. Prentice et al. to F. Schlessinger, Lola Montez Group 9 claims in Enterprise District.

Chicago-Carr Mining Company.—Sinking is being carried on at a depth of 180 ft. and good ore is being opened up in the 100-ft. levels. Ten tons of mill ore are being shipped daily, besides smelting and concentrating ores at regular intervals. A force of 24 men are employed. Bruce M. Myers, Central City, Colo., is manager.

Mabel.—Denver parties have taken a lease and bond on this property in Russell Gulch and have started to do development work. F. W. Kroenke, Central City, Colo., is in charge.

National Tunnel and Mining Company.—Switches from the tracks of the Colorado & Southern Railroad are being put in to the upper and lower tunnels. A building 20 by 42 ft. has been completed for machinery building at mouth of main tunnel. The company has acquired possession of about 30 claims, which will be cut by its tunnels, and is now employing 24 men under management of J. J. Reilley, Central City, Colo.

Oranoake.—Denver parties have taken hold of this property on King Flats and have a contract for a shaft-building 22 by 24 ft., with a view of installing a plant of machinery. Theo. Marks, Central City, is manager.

Petersen Mill.—This 15 slow drop stamp mill in Lump Gulch has been started up again by Jenkins, Lightbourn & Company, who are working the Gold Dirt Mine. The ore from the latter mine is being treated to the amount of 25 tons per day. G. Williams, Gilpin, Colo., is manager.

Gunnison County.

Courtland.—A streak of rich ore is reported opened in a new shaft on this property in McIntyre Gulch, above Ohio City. The company is to try electric rock drills. H. S. Roe is manager.

Lake County—Leadville.

(From Our Special Correspondent.)

Daily Output.—The tonnage the past week has been about 2,200 tons per day, a falling off over the same period last month, due to development and prospecting under way in several of the large outputting mines.

Coronado Mining Company.—The rumor that this mine is to close is without foundation, although the pumps were stopped and the lower levels have been allowed to flood with water. This is due to the fact that the immense iron body encountered there is too low to ship and pay the heavy pumping expense. The water has risen 60 feet, at which point it will be held until the company decides what steps to take.

Empire Mining Company.—These people putting down a new shaft on Long & Derry Hill have encountered a fine mineralized contact at 200 ft., which carries gold values. The entire bottom of the shaft is covered with this black contact and exploration work on the same is being pushed.

Eurydice.—New lessees are operating this property on the gold belt and are sinking a new shaft to tap the ore caught in the Frank.

Fanchon.—Lessees have two shafts in ore. No. 1 is down 90 ft. and No. 2, 75 ft. The Orinoco and Dinero veins extend into this territory.

Frank.—The recent strike has opened up into a continuous vein from which shipments to the old Printer Boy mill which has been revamped are now regular. Test runs are being made with 15-stamps and are proving highly satisfactory. Ten additional stamps are to be put in. The stuff taken from the Frank averages $15 to the ton and it costs $2.65 a ton to haul it to the mill.

Garbutt.—A fine plant of machinery has been put in place and operations are being conducted between the 300 and 400 levels; 20 tons a day of good ore showing a percentage of copper as well as running good values in gold and silver are being shipped.

Georgia Gulch Mining Company.—The new shaft is down 190 ft. and the bottom is in the Lake Bed. No difficulty is being experienced in handling the water. This is one of the furthest southwest shafts in virgin ground and is being backed by a son of Sen. Clark of Montana.

Golden Eagle Mining Company.—The Vinnie claim is in the midst of very important work. It is believed that the Ibex shoot extends into this ground, as the Ibex is working right up to the Vinnie lines. In addition the Yak Company is to develop the Golden Eagle ground with its deep tunnel. The Vinnie is being operated under lease by the Vinnie Mining Company.

Ibex Mining Company.—Shipments average 175 tons per day, but development just completed at No. 2 shaft will tend to increase the tonnage considerably, while much new propecting work is also under way. At the annual election of officers held here this week the following were re-elected: A. V. Hunter, president and treasurer; Eben Smith, vice-president; Chas. Cavender, secretary; John F. Campion, general manager; S. W. Mudd, manager.

New Leadville Home Mining Company.—This is the name of the new company just formed to take the place of the Leadville Home Mining Company. At a special meeting held March 9th it was decided to reorganize this important downtown proposition and the capitalization was made $2,000,000 in 2,000,000 shares. The old stock of 50,000 shares will be given in 40 new for each old share. At the meeting 38,000 shares of the 50,000 were represented and only 250 shares voted against the recapitalization. The new directors are Dennis Sheedy and W. K. Burchinell, of Denver, and W. A. Polkinghorn, J. M. Maxwell, D. D. Sullivan, E. J. McCarty and Arthur Lumsden, of Leadville. Articles of incorporation will be filed this week and it is stated that the property will now be listed in Denver and Colorado Springs. Mr. Andrew Dyatt, recently appointed manager, will be retained and the important development work will be prosecuted on a larger scale than ever. It has just been announced by the board of directors that the company will pay a dividend of 25c. a share on its 50,000 shares on March 20th to all stockholders on the books. This will be the last dividend paid by the old company and makes a total of five dividends paid by the Home Company. The first was a $1 dividend and the second and third 50c., and the last two 25c. The New Leadville Home Mining Company has filed its incorporation papers and will be ready for business by April 1st.

Orion.—This is a downtown claim where some very rich ore was taken out some months ago, but it played out. New lessees have begun operation at 500 ft. and will sink the shaft a further depth of 125 ft.

President.—The lessees on this Breece Hill property have encountered and are opening up the ore shoot mined in the Ballard and shipments will be regular in a few weeks from the President.

Ouray County.

Camp Bird.—Negotiations for the sale of this property at Ouray which fell through some months ago are said to have been renewed recently, and it is rumored that a sale to the Venture Corporation may yet be made. The price asked by the owner, T. F. Walsh, is said to be the same as before.

Park County.

(From Our Special Correspondent.)

Gold Basin Placer Mining Company.—Leadville people have recently organized this company, backed by Boston capitalists. There are 1,400 acres of Placer ground lying in Park County, and it is stated that they intend to conduct work there this spring.

San Juan County.

Pay Rock.—This Georgetown property will, it is reported, pass to Hendrie & Bolthoff, of Denver, under a tax deed. This mine was once a rich producer, but has not been worked for several years because of litigation in the ownership. A stock deal involving the Pay Rock was one of the sensations in the early history of the Denver Mining Stock exchange. Debts accumulated and then the property passed into the hands of a receiver, J. M. Copeland, of Georgetown. Without funds to prosecute development, taxes continued to accumulate and the property was finally bought in at tax sale by Hendrie & Bolthoff.

(From Our Special Correspondent.)

Mining Transfers.—Nellie Tulley to S. G. Martin, Great Western and Sterling Lodes; Theodore Grabowsky to G. Schirmer, Portland Lode; Laura V. Reed and Chas. M. Garwood to John J. Miller, Brewster Lode; John A. Harris to D. Preston Bell, bond and lease on Brooklyn Lode; J. F. Steinbeck to Howard Barrett, Russell and other lodes.

Bear Mountain Mining Company.—Work was started up recently on this company's properties on Bear Mountain. The tunnel is being retimbered and repaired preparatory to the installation of a large force of men.

Bear Mountain Tunnel.—Work is being pushed on this cross-cut and several shipments of high-grade ore have lately been made. The tunnel is now in 100 ft.

Beaton Silver Mining Company.—A sale is under way and these properties will be thoroughly examined shortly by experts representing a company which expects to take hold of this group, which consists of the Tantallon, Trenmore, Occident, Artois and Livingstone. The developments on these claims aggregate 2,500 ft. of drifts and shafts. Considerable rich ore was shipped from the Tantallon some years ago.

Boston-Silverton Syndicate.—A large body of yellow copper ore has been opened up in the upper workings of the Uncle Sam. The Lamont Tunnel has reached the 150-ft. point, and the Yukon Mill is running on ore from the Yukon Tunnel, which is now 500 ft. in on the vein.

Minnie Gulch Mining and Tunnel Company.—This company recently made a rich strike in one of its properties, the Little Joe, and shipments have been continued regularly since. The ore was found in the lower tunnel and is of a telluride character.

Natalie Mining Company.—This company, through its president, T. J. Hurley, has just purchased from Fraser & Chalmers, of Chicago, the largest duplex compound compressor ever brought to the San Juan country. The compressor has a capacity of 12 drills. Three 100-H. P. boilers are to be installed; also an electric light plant complete, and a large Corliss engine for operating the big compressor, all to be delivered by May 15th. The Hurley Tunnel is being rapidly pushed and an upraise is to be driven to the Occidental ore bodies, thus avoiding the necessity for the erection of an aerial tram from that property. The new Occidental mill is to be erected near the mouth of the Hurley Tunnel.

North Star.—This property has lately been under examination by experts representing a Cripple Creek company, who have made a favorable report and state that their company will undoubtedly take up the option. Three men have been put to work cleaning out and repairing the old tunnel, which is 2,200 ft. long.

Parker Tunnel.—This tunnel is in 200 ft. and it is expected the lead will be cut within the next few feet. Eight men are employed.

Summit County.

The Gold Pan Company and the Ora Grande Company now control a long stretch of ground along the Blue River and below Breckenridge. B. S. Revett has a little ground at the mouth of Swan Creek. The Gold Pan is a Chicago company. It has erected machine shops and a consignment of 40 car-loads of iron has arrived which is to be made into pipe for use in sluicing. The Ora Grande Company now has between 5 and 6 miles of pipe and will add more. Both companies will use devices successfully tried by Revett last year.

Teller County—Cripple Creek.

(From Our Special Correspondent.)

Acacia Gold Mining Company.—The manager's and president's reports dated March 1st have been sent to the stockholders. The recommendation from the manager was to the effect that the Wrockloff Shaft be deepened in order to catch the Burns vein. This would mean 300 ft. of sinking from the 625-ft. level. The usual quarterly dividend of $15,000 will be passed, as it is thought wiser in accordance with Mr. Chamberlain's recommendation to use the money in sinking the Wrockloff Shaft. A total of $45,000 has been paid out by this company in dividends. The winze that Lessee Wrockloff has started in the Burns claim is now about 30 ft. deep and so far nothing has been encountered. Its object is to locate the ore shoot, which has not been discovered below the 3d level. The Brady Lease is being operated by the company, a portion of the Burns claim by George Wrockloff and the Morning Star by the Banker's Mining and Leasing Company.

Arno Gold Mining Company.—The stockholders of this company held an adjourned meeting on March 6th and elected the following officers to serve for the year: President, Beauregard Ross; vice-president, John Sharpe, secretary and treasurer, Frank Ish. It was also voted to raise the capitalization from 1,200,000 to 1,500,000 shares.

C. C. Columbia Mining Company.—Production has been suspended on the Columbia claim on Beacon Hill to allow the new gallows frame to be installed.

Independence Consolidated Gold Mining Company.—W. P. Dunham, General Manager of this company, announces that work has not been suspended on the Hull City Placer and probably will not be, as favorable developments have recently been made. The company has been employing about 75 men on development work and part of this force will be laid off.

Midget Gold Mining Company.—This company is installing a new plant of machinery, preparatory to sinking an additional 300 ft., the present depth being 700 ft.

Morning Glory Mining and Leasing Company.—This company will begin the work of installing the two new pumps which have been purchased from the Portland Company in the Wood's shaft in a few days. This will drain the properties of the water which has interfered with work in the 5th, 6th and 7th levels.

Oneida Mill.—The S. H. Supply Company, of Denver, has purchased the buildings and plant of machinery belonging to this mill, which will be dismantled and buildings taken down. This mill was started in July, 1899, and has been in operation altogether only about three months.

Work Gold Mining Company.—A shaft has been sunk on the Beckett Lease which takes in the extreme southeast end of the Morning Glory No. 2 claim, and it is reported that good ore has been found. This shaft is located about 500 ft. from the main shaft of the Morning Glory, and on ground that has previously produced good ore. Apparently the lost shoot on this part of the territory has been recovered.

Zoe Gold Mining Company.—It is reported that the works of this company have closed down, and that it is probably due to the change in management.

IDAHO.

Blaine County.

Golden Star.—At this gold mine near Hailey a shoot of ore 2 ft. thick is reported opened between the 400 and 500 levels. The 10-stamp mill on the property is being erected as fast as possible, but is not expected to begin work before May 1st on account of the difficulty of getting in supplies.

Owyhee County.

De Lamar Mining Company, Limited.—The manager's detailed report for January shows that the ore worked in the cyanide plant was 4,171 dry tons. The average assay was $10.39 per ton, and the average assay of the tailings $2.43. The revenue account shows: Fine gold, 1,528.5 oz., $30,570; fine silver, 5,260 oz., $2.630; surplus realized over estimated value of cyanides sold, $1,586; miscellaneous, $50; total, $34,836. The operating expenses were $29,758, leaving a profit of $5,078 for the month.

ILLINOIS.

Coal Miners' Wages.—After a deadlock of several days in the longest convention ever held by the miners and operators of Illinois, the State mining scale for the coming year was agreed to at Springfield on March 7th by the sub-scale committee. The miners accepted a scale of 42c. in Williamson County, 3c. less than they had demanded. This agreement may be subject to change.

MAINE.

Knox County.

Rockland-Rockport Lime Company.—This company has taken over the properties near Rockland of its chief competitor, Perry Brothers, and the syndicate now has control of the lime industry on the Maine coast. The transaction involves property valued at about $350,000, consisting of 3 quarries, 5 new patent kiln sheds, 6 schooners, several wharves and material for the manufacture of lime. It also includes the property at Newtown Creek, New York, comprising offices, lime yard, storehouse, waterfront privileges, etc. The Perry quarries will be abandoned by the company for the present and all rock will be furnished for the present from its other quarries.

MICHIGAN.

Copper—Houghton County.

Franklin.—The February output is reported as 240 tons of mineral.

Isle Royale.—C. V. Read, of the Nordberg Company, of Milwaukee, is installing the new 16,000,000-gal. pump at the stamp mill. The pump is a Nordberg Corliss triple-expansion, capable of supplying the 3 heads that will be put in commission at the mill with 14,00,000 gal. of water. The pump has a triple discharge into a large steel water main, which runs half a mile from the pump house to the mill.

Although one head is practically ready for use and work is well advanced in all departments of the new mill, it will be nearly 4 years from the time of resumption before the Isle Royale will begin making copper, and the cost is estimated at $1,500,000.

Osceola.—A new style slime table at the mill is reported to be giving satisfactory results. Instead of a wood frame with a sheet-iron face, it has a steel frame and a cement face.

Quincy.—The February output was 1,025 tons 1,950 lbs. of mineral, the largest output yet made for so short a month.

Iron—Marquette Range.

Bessie.—This mine near Humboldt, being operated by the Oliver Iron Company, is said to be looking well. Something over 20,000 tons of ore have been hoisted. It is understood that a spur will be extended to the mine and that the ore will be shipped this summer. About 40 men have been on the pay roll all through the winter.

East Jackson.—A second diamond drill is in operation at this Ishpeming location.

George Mass has bought from John Mulvey and E. S. Anthony their interest in certain iron lands near Ishpeming for $30,000 and Mr. Mass has now transferred his holdings to the Cleveland Cliffs Iron Company.

Lucy.—The Oliver Mining Company has taken an option on this and the East Jackson property and has already begun work at Negaunee with diamond drills. Both properties have been worked before, but the excessive royalty required by the fee owners put a stop to further operations. The same company has also secured an option on the Barasa property adjoining the Negaunee Mine.

MINNESOTA.

Iron—Mesabi Range.

(From Our Special Correspondent.)

Clark Lands.—Harry Roberts will drill and explore the south 80 acres of the original Clark deposit, on which ore is expected to be opened. There is a 25c. lease on this tract, but no minimum, the American Mining Company having absorbed the minimum in its sub-lease of the northerly 80 acres.

Corsica Iron Company.—This company is down into the ore in its new shaft, and will soon drain the adjoining Elba. The mine is hoisting some ore and will make small shipments this year. It is operated by the Minnesota Iron Company.

Hobart Iron Company.—This company, an offshoot of the Minnesota Iron Company, owns what has been called the Fay, near Virginia. The company is considering the prospect of stripping the ore body on a portion of the deposit, but has made no contracts yet.

Itasca Mining Company.—This company, which holds a State lease to a large tract in T 58, R 19, on which ore has been found, has closed a traffic contract on the property with the Eastern Minnesota road for a period of 99 years. The ore is a non-Bessemer and is of good structure.

Lincoln Iron Company.—This company, which owns the fee to several 40's in section 4, T 58, R 17, that have been drilled and found to contain much excellent ore, will proceed to develop them at once and will sink shafts as soon as it can do so. The location is northeast of Virginia.

Spruce Mining Company.—This company's entire capital stock has been bought by the Lake Superior Consolidated Iron Mines (Rockefeller) at a price said to be about $75 per share, or about $750,000 for the issue. The stock represents the ownership of a 30c. lease on the Spruce Mine at Eveleth and a 25c. lease on the Cloquet Mine adjoining, as well as a small part of the townsite, containing ore. The Spruce is a 50,000-ton minimum, the Cloquet 25,000 tons. The Spruce contains about 7,000,000 tons of Bessemer ore of a fine character, coarse and desirable. The Cloquet is a smaller body, perhaps not quite so desirable. The two are now opened in conjunction. The Spruce was under contract to deliver its ore to the transportation branch of the Rockefeller interests; the Cloquet has had a short-time contract with the Duluth & Iron Range road. The two mines lie close to the Adams, of the Rockefeller group, and all will be mined under the same local management. This deal is taken to indicate that the Lake Superior Consolidated is not to enter the Morgan combination, at least not yet. The Spruce is owned in fee by some Michigan lumbermen and was taken by P. L. Kimberley and associates a little over a year ago on the payment of a bonus of $75,000. Mr. Kimberley's company shipped last year 101,000 tons and has about the same quantity now on surface ready for the coming year. It is hoisting 1,200 tons a day and is in shape to make a very important production in 1901. It has been well developed underground, but the stopes have not been touched. All its surface improvements are steel, including shaft houses, buildings, etc.

MISSOURI.

Jasper County.

(From Our Special Correspondent.)

The Missouri-Kansas Zinc Miners' Association is making steady progress in its plans to export zinc and the first shipment of 500 tons will go south over the Kansas City Southern on or before March 18th. The ore will go to J. Needham's Sons, of Antwerp, who have contracted for from 500 tons weekly up to a limit of 1,500 tons weekly.

International Zinc Company, Limited.—An investigation into the affairs of this company is being conducted in New York City by a committee of stockholders, with James F. McNaboe as counsel. Letters are being received daily from persons who were induced to invest in the stock of the company and who wish to get something back. Dr. John Grant Lyman, who was the most influential member of the firm of Joshua Brown & Company, promoters of the International Zinc Company, has issued a statement that Brown & Company, so far from having gained anything by the deal, was compelled to wind up its affairs on account of its investments in zinc.

Joplin Zinc Market.—There was a slight advance on all grades of zinc ore last week and buyers loaded every car they could secure at prevailing prices. The very best grades advanced 50c. per ton and many producers refused to sell even at $27.50, which was the top. Four cars from the King Jack Mine in Chitwood Hollow at Joplin brought $27.50 and several lots brought $27 per ton. The La Tosca and Morning Star at Oronogo and the Eagle ore at Belleville sold at $26.50 per ton and the balance of the district ore according to quality. Lead was unchanged at $23 per 1,000 lbs. Following is the turn-in by camps of the Joplin District for the week ending March 9th:

	Zinc. lbs.	Lead lbs.	Value.
Joplin	2,536,860	417,030	$42,571
Galena-Empire	1,381,880	162,550	20,320
Carterville	1,226,110	367,790	22,559
Oronogo	917,610	14,410	10,406
Webb City	465,980	42,430	6,335
Zincite (Belleville)	339,730	4,630	4,523
Neck City	477,090	21,070	6,926
Duenweg	143,820	70,030	3,048
Cave Springs	254,010	.....	3,048
Central City	190,500	.....	2,286
Spurgeon	89,710	15,090	1,242
Aurora	925,280	22,410	10,346
Spring City	36,370	36,160	1,232
Roaring Springs	56,130	2,900	684
Beef Branch	14,700	6,600	239
Granby	292,000	40,000	3,060
Carthage	62,490	.....	781
Seneca	37,490	.....	225
Alba	208,440	.....	2,814
Carl Junction	182,510	.....	.....
District total	9,838,710	1,223,100	$145,018
District total, 10 weeks	94,994,960	12,134,330	$1,393,689

Zinc value for week, $116,911; lead, $28,107. Zinc value 10 weeks, $1,119,217; lead, $274,472.

For the same week last year the best grade of zinc ore sold at $32.50 and lead at $27.50. The lead sales were less than last week by 162,170 lbs., the zinc sales greater by 1,052,290 lbs., and the value greater by $39,040.

For the first 10 weeks of last year the sales were less by 1,626,490 lbs. of zinc and 1,863,730 lbs. of lead; the value was greater by $272,544. Compared with the previous week, the sales of zinc were greater by 5,810 lbs., the lead sales less by 118,570 lbs., and the value less by $413.

Joplin-Galena Consolidated Lead and Zinc Company.—Judgment for $10,000 was rendered against this company in the circuit court last week in favor of Walter Livengood, a miner who lost his sight by drilling into an unexploded shot while acting under the direction of the ground boss. He sued for $30,000.

MONTANA.

A bill known as the "Biased Judge" act, which it is said had been worked through the State legislature in the interest of the Amalgamated Copper Company, was vetoed by Gov. Toole on March 8th. The object of the bill was to prevent Judge Clancy, who is alleged to be prejudiced in favor of F. Aug. Heinze, from passing upon any questions that might arise in the tangle of lawsuits between Heinze and the Butte & Boston and Boston & Montana companies.

Broadwater County.

(From Our Special Correspondent.)

Lone Mountain Group.—J. M. Ralls, of Radersburg, is about to dispose of this group of copper and gold claims to a company which is being organized by people in Ohio for the purpose of developing the property.

Stolen Sweets.—This property, three miles from Winston in Iron Age Gulch, and owned by Canon Brothers, is under bond to Geo. E. Gunn, of the American Smelting and Refining Company. This mine has been a regular shipper during the past three years of a high-grade carbonate ore.

Deer Lodge County.

(From Our Special Correspondent.)

Brown Iron Mine.—This property, situated 5 miles above Anaconda, is sending a car per day of iron ore for flux to the Montana Ore Purchasing Company. The ore is a sesquioxide and averages 50% iron with a small value in gold and silver. The property is owned by F. D. Brown, of Anaconda.

George.—This mine, situated at the head of Lost Creek, 10 miles from Anaconda, is to be reopened by the owners. It is a lead-silver carbonate and has not been operated for six years. The lead is a large one and has produced a large tonnage of ore.

Granite County.

(From Our Special Correspondent.)

Brent & Company.—Several feet o good ore has been discovered in this mine near Bloomington. The owners are negotiating with Butte men for the erection of reduction works.

Hope.—The mill is running steadily on good ore taken out through the lower tunnel at a much lower cost than hoisting.

George Dewey.—Eugene Sifton is working this

property near Princeton. The ore is rich in silver and copper and will be shipped to the Helena smelter.

McLeod.—Ten men are now employed on this Philipsburg property, in which a vein of very fine ore was recently opened. The property lies near the Hobo, and is said to be equally rich. Shipments will begin immediately, and the force of men increased as soon as room is made for them.

Moroni.—Dr. Merrill was recently in Philipsburg making arrangements for putting more men to work on this property in which a strike was recently made.

Willow Creek Placer District.—William Hutchinson and L. Winegar are developing some recently discovered placer property, which, at a depth of 3 ft., shows good returns. This ground will be extensively worked. Charles Carpp & Company are preparing for work on their placer claims, which have been good producers for several years. Luthje Brothers will put men at work on their gound at once. Many others who have placer claims are preparing to work them.

Jefferson County.

(From Our Special Correspondent.)

Ada.—It is announced that this property, situated on Rocker Creek, 12 miles above Basin, and owned by Downey & Axe, has been sold to Eastern parties for $175,000. The ore runs about 5% copper with a good silver value. The ore is 40 ft. wide on the 70-ft. level and is a complex sulphide.

Bell.—This property, operated by C. W. Fleming and situated 6 miles from Alhambra, is shipping a car per day. Four 6-horse teams are employed at present and Mr. Fleming will place two other teams on at once.

Big Chief.—This property, situated near Jefferson City, owned by Ellis & Kanenbly, is reported to have struck 16 in. of silver-lead ore in the crosscut from the tunnel.

Black Bear.—This property, 7 miles up Cataract Creek from Basin, belonging to Mahoney & Cotter, of Butte, has been bonded to local people at $50,000.

Copper Bell.—This Cataract property, which has been idle for 6 years, will be reopened in the spring by Chicago parties who have secured it on a bond for two years.

Silver Bow County.

Anaconda Copper Company.—This company has bought of the Salt Lake copper works at North Salt Lake the big 1,000-H. P. Corliss engine exhibited at Chicago in 1893. It is a 4-cylinder triple expansion engine. The high-pressure cylinders are 20 in. in diameter for the intermediate, 34 in. and 2 low-pressure 34 in., with 60-in. stroke. The fly-wheel is 28 ft. in diameter, with a 68-in. face. The Anaconda Company will use the engine to run part of its new concentrating works, and will transmit power and light through 5 buildings. The other 2 engines the copper company already has in operation have each a 26-in. high pressure cylinder, a 46-in. intermediary cylinder, and 2 48-in. low-pressure cylinders, the three great machines making 3,400 aggregate H. P.

Blue Jay.—Judge Harney on March 7th granted an injunction against the Butte & Boston Mining Company, stopping work on this mine, under the co-tenancy decision of the Supreme Court. M. H. Schultze, of New York, who claims to own 1-22 interest in the property, was the plaintiff. He places the value of his share of ore taken from the property at $20,000.

Comanche.—The supreme court has refused the application of the Boston & Montana for a stay of the restraining order granted by Judge Clancy to prevent its operation of the Comanche Mine, but at the same time criticises Judge Clancy for not setting the application to make the injunction permanent earlier than April 2d. In an opinion written by Justice Milburn, the court sustains the contention of the petitioner, Adolphe Wetzstein, that there is no appeal from the restraining order, on the ground that it is intended only as a restraint on the defendant until the propriety of granting an injunction temporarily or perpetually can be determined.

(From Our Special Correspondent.)

Butte Mining and Development Company.—The shaft on the Emma has reached a depth of 190 ft. An entire new machinery equipment has been bought. The stock has been withdrawn from sale with sufficient money in the treasury to sink the shaft to the 1,000-ft. level. It is stated that 100,000 shares of the stock were sold in Boston at $1 per share. Other large blocks of the stock have been subscribed for elsewhere in the East.

Parrot.—Since the fire of last fall, which destroyed the surface improvements, the work of rebuilding has gone on during the winter. The new buildings will be of stone, brick and steel. A self-contained steel stack 150 ft. high and 8 ft. in diameter has been erected. A new air compressor is being installed. A steel gallows frame has been ordered, which is being built from drawing of James Naughton, the master mechanic of the company. Four boilers of 200 H. P. each will be added, making 8 in all. These improvements will place this property on a par with any mine on the hill.

NORTH CAROLINA.

Montgomery County.

(From Our Special Correspondent.)

Beaver Dam.—This gold mine operated by J. D. Reid, of El Dorado, is producing nugget and dust gold from hydraulic operations.

Rowan County.

(From Our Special Correspondent.)

Dutch Creek.—This gold and copper mine is being opened by Chas. L. Herzig for John T. Williams, of Lords Court Building, New York City.

Union Copper Mines.—The company has ordered of the Colorado Iron Works, of Denver, Colo., a new plant of concentrating machinery which is to be put in at once by Smith McKay, J. W. Livingston and A. J. Smith, who have arrived at the mines.

OHIO.

Coal Miners' Wages.—The joint committee of miners and operators of the Hocking Valley coal district failed to reach an agreement at Columbus last week in regard to a rule for docking miners for sending up "dirty" coal. All the prices and rules in effect during the past year in the district were reaffirmed except those relating to the docking system, which was referred to a joint conference of miners and operators to be held in Athens on March 26th. The controversy must be settled by April 1st or the mines in the Hocking district will stop work.

OREGON.

Baker County.

Golconda Mining Company.—It is stated that this company, owning the Golconda Mine, is reorganized. The holdings of J. G. and J. T. English were transferred to the company last March, when the company was incorporated with $1,000,000. It is stated that Pittsburg men, headed by C. A. Smith, has an option on the 700,000 shares of J. G. and J. T. English in the sum of $350,000 and options on 280,000 shares more in the sum of $112,000, or the total 980,000 shares of the original 1,000,000 for a total of $462,000. The contract for the controlling interest in the company, formerly held by Messrs. English, called for a cash payment of $50,000 on the stock and a guarantee of $75,000 being expended in development during the 12 months of the option.

North Pole.—The new 1½-mile aerial tramway recently installed at these properties near Sumpter was recently accepted from the builders, the California Wire Works of San Francisco, and regular shipments of ore are made to the mill over it. The ore buckets, 150 in number, are attached to the cable every 105 ft., and leave the mine loaded with 200 lbs. of ore every 35 seconds. Each bucket arrives at the mill 35 minutes after leaving the mine. With the new tramway about 240 tons of ore can be delivered at the mill daily at an estimated cost of 12c. per ton, making an estimated saving of 38c. per ton in transporting the ore. At present the capacity of the North Pole mill is 10 stamps and a 25-ton cyanide plant, or a daily capacity of about 55 tons. This capacity will be increased shortly by a new 5-ft. Huntington mill, which will give an increased capacity of about 50 tons per day. Emil Merzer is superintendent.

PENNSYLVANIA.

Anthracite Coal.

Miners' Wages.—The Reading, the Lehigh Valley and the Delaware & Hudson companies posted notices at their collieries on March 9th announcing that the companies will continue to pay the rate of wages granted last Fall until April, 1902, while local differences with employees would be adjusted at the respective collieries. This action was followed by the Delaware, Lackawanna & Western, the Hillside, the Pennsylvania Coal Company and the other large companies and by most of the independent operators. The notice was evidently intended to forestall any action that might be taken by the convention of delegates of the United Mine Workers on March 12th at Hazelton. President Mitchell, of the Mine Workers, is reported to have said that the notice did not concede enough and that the union would not be satisfied with anything less than recognition by the operators. The more conservative of the miners, however, are stated to be satisfied with the terms offered and to be averse to forcing matters by an open rupture with the operators and a long and bitter strike.

Birdseye.—At this slope at Oliphant the Delaware & Hudson Company is running headings and will haul the coal to Eddy Creek breaker.

The company will also sink a great shaft 12 by 50 ft. for 800 ft., the contract for which was to be let March 15th. Work on the shaft will be pushed. When it is completed Eddy Creek shaft will be sunk 400 ft. and connected with it.

Dodson.—This new breaker at Plymouth, is owned by John C. Haddock & Company.

Pennsylvania Coal Company.—Breaker No. 14 at Port Blanchard, burned some weeks since, is to be rebuilt. The contract has been awarded.

Bituminous Coal.

The Bituminous Miners' Convention at Altoona adjourned March 9th after approving the operators' offer of last year's scale. The mine owners at first insisted on a 9% reduction, but finding miners firm in a demand for an 8-hour day, they offered to compromise on a basis of last year's scale.

Beech Creek Coal and Coke Company.—The Pardee collieries, Patton Coal Company, Clearfield and Indianapol Coal Company, James Kerr & Company, E. P. McCormick & Company, and the Chest Creek L. and I. Company have disposed of their mines and business to this company, with headquarters in New York City. The Companies shipped about 1,000,000 tons of coal last year. James Kerr is president of the new company, and A. E. Patton treasurer.

This is a consolidation of allied bituminous coal interests, all mining in Clearfield and Cambria counties, along the line of the Beech Creek Railroad. The consolidated concerns are all owned by the same men. Three of them are partnerships and 3 corporations. The latter have an aggregate capital of $840,000. The capital stock of the Beech Creek Coal and Coke Company, which has no connection with the Beech Creek Railroad, excepting as a shipper, will be about $5,000,000. The tract of land which it takes over contains 16,000 acres and there are 14 mines. The unmined coal is estimated at about 250,000,000 tons.

Berwind-White Coal Mining Company.—This company has, it is stated, posted notices at its Windber, Horatio and other mines in the central field announcing that the average advance of 20% in wages given its employees April 1st, 1900, will be continued until April 1st, 1902. This notice affects about 10,000 men, all told, and is of the utmost importance. The action of the company continues in effect the highest rate of wages ever paid in the central Pennsylvania field and is doubtless intended to prevent any dispute about mining rates in this field being started by the United Mine Workers.

Viatoon Colliery Company.—This company, at Ebensburg, has disposed of its interest to the Lackawanna Coal and Coke Company for $175,000, and the Black Lick Land and Improvement Company sells its holdings to the same company for $325,000. It is believed that the Lackawanna Coal and Coke Company will become a part of the recent combination of coal companies.

SOUTH DAKOTA.

Pennington County.

(From Our Special Correspondent.)

Shawmut Mining Company.—This company, working 63 acres of ground in Blacktail District, is preparing to put in 2 more Huntington mills, giving a capacity of 100 tons per day. The company is successfully treating cement ore by the wet process. The officers of the company are: President, Edison E. Dewey; vice-president, Walter B. Farmer; secretary, H. B. McKinney; treasurer, B. L. Heath, all of Boston. Superintendent and general manager, E. F. Seaver, Deadwood. The ground is developed by more than 2,000 ft. of tunnels and drifts.

Cleopatra Company.—This company is capitalized at $200,000 in $1 shares. There are 170 acres in the group, which has been opened by tunnels and 1 shaft, the latter having nearly reached lower quartzite. The officers of the company are: President, James M. Lawson, Aberdeen; vice-president, R. A. Mather, Groton; secretary and treasurer, R. B. Hughes, Spearfish.

TENNESSEE.

Maury County.

American Phosphate Company.—This company recently made an assignment. It was incorporated in 1899 at Camden, N. J., according to a trade paper, and the capital stock placed at $950,000. About 2,000 acres of phosphate land were purchased in Maury County. A branch road was built from Ridley Station to the company's plant. In August, 1899, $200,000 bonds were floated through the Union Bank and Trust Company, of Nashville. Since then the company has purchased other lands and has done a phosphate mining business, but some weeks since all operations ceased.

The liabilities, it is said, will reach over $500,000. The assets comprise about 3,000 acres of land in this and Lawrence Counties and a fine plant near Mt. Pleasant which cost about $600,000. A large part of the land, however, is said to contain little or no marketable phosphate rock.

The company owes the complainant to the suit $222,645 in money furnished to begin operations, $35,000 in money borrowed since and $14,250 on bonds he holds, or a total of $241,895. There are about $180,000 of the company's bonds held by non-residents. The greater part of the other indebtedness consists of outstanding land notes secured by a lien on the 2,000 acres of land the company has purchased in this county.

TEXAS.

Brewster County.

(From Our Special Correspondent.)

Marfa & Mariposa Mining Company.—This company's 10-ton Scott & Huttner furnace is in full operation again after a brief shut-down for repairs. The clean-up for first 10 days' run resulted in over 100 flasks of quicksilver. The average daily output from now on will be about 10 flasks per day of 24 hours.

The sale of two sections—1,240 acres—of land by the California Company to the Marfa & Mariposa Mining Company has been completed and the latter company is now in possession and will vigorously prosecute development work. The work thus far done shows large quantities of medium grade and considerable high grade ore in sight. The California was considered one of the best properties in the district.

Jefferson County.

Lucas Oil Well.—A press dispatch from Port Arthur says the first shipment of oil from the great Lucas gusher was made to Port Arthur on March 11th. It amounted to 6,000 bbls. of the crude oil, and is consigned to parties in Philadelphia, who will use it for fuel. The pipe line built by Messrs. Guffy and Galey, owners of the Lucas well, will soon be in operation, and the product will be sent direct from the well to Port Arthur, a distance of 18 miles.

UTAH.

(From Our Special Correspondent.)

Bullion and Ore Shipments.—During the week ending March 9th there were sent forward from the several smelteries 17 cars, or 719,959 lbs., of silver-lead bullion; 6 cars, or 316,770 lbs., of copper bullion and 70 cars, or 2,972,370 lbs., of silver-lead ores; a total of 93 cars, containing 4,009,099 lbs. of bullion and ores.

Summit County.

(From Our Special Correspondent.)

Park City Shipments.—For the week ending March 9th the output of this camp, as reported by the Mackintosh sampler, is 3,901,190 lbs. The several contributors are as follows: Silver King, crude ore 712,220 lbs., concentrates 668,010 lbs.; Daly-West, crude ore 859,750 lbs., concentrates 1,025,370 lbs.; Quincy, crude ore, 224,910 lbs.; Anchor, concentrates, 410,930 lbs.

WASHINGTON.

Ferry County—Republic.

Republic Consolidated Mining Company.—The company recently placel an order for a 10-drill compressor, 60-H. P. hoist and an 80-H. P. boiler plant. The contract was secured by the Bradley Engineering and Machinery Company,

WEST VIRGINIA.

Monongahela County.

(From Our Special Correspondent.)

Briar Hill Coke and Coal Company.—This company, which has large coke plants at Monongahela, Farnum, Gypsy and other points on the Monongahela River, in West Virginia, has purchased the John F. Jones plant at Glen Falls for $150,000.

Republic.—The upraise between No. 4 and No. 3 levels, 30 ft. south of the No. 4 tunnel intersection, is completed. No ore has been removed from the 182 ft. between these levels except from the 2 winzes and a short drift. About 86 tons a day are mined at present.

FOREIGN MINING NEWS.

CANADA.

British Columbia.

(From Our Special Correspondent.)

A most important find at Rossland was the discovery of the ledge on the Homestake Mine in the South Belt recently, as large sums of money had been expended upon properties in this range without permanent results. A 20-ft. ledge with a 5-ft. pay ore shoot is reported disclosed 1,300 ft. in from one tunnel entrance at a depth of 500 ft. Sampson Hall is the superintendent. A few weeks' work is necessary to develop the ledge so as to demonstrate the value of the find. Should the Homestake become a mine there are at least 12 partially developed properties now closed down which will start up this spring.

All the new machinery of the Le Roi was started on February 22d and the mine is shipping over the new aerial tramway on the Black Bear ground.

The Northport Smelter blew in the 5th furnace on February 24th, but repairs to a portion of the original plant delayed the ore shipments now possible from the mines. Consequently the Rossland output to Northport will be limited until then.

Trail Smelter.—The purchase of the Canadian Pacific Railway Company's smelter at Trail by The Gooderham-Blackstock syndicate, which controls the War Eagle, Center Star and St. Eugene mines, is announced semi-officially, and has undoubtedly taken place.

Giant.—This mine on Red Mountain, at Rossland, adjoining the Le Roi, has changed hands. A new company floated in England with $750,000 capital, with $50,000 for development, has it and the first 2 payments have been made to the old holders.

MEXICO.

Oaxaca.

Gracia.—This group has been sold to a firm of bankers of Detroit, Mich. The mines have been worked with crude and old-fashioned appliances for many years, but will not be equipped with modern machinery.

Sonora.

Turquoise Deposits.—While making an examination of the copper deposits in the vicinity of La Barranea, J. Owen, assistant to Dr. E. T. Dumble, found 2 deposits of turquoise. They occur in what is regarded as the equivalent of the volcanic complex described as "Trincheras." The deposits at Turquoise, Ariz., are in similar rocks.

COAL TRADE REVIEW.

New York. Mar. 15.

Anthracite.

With milder weather, which promises to continue, trade is falling off and will soon settle down to a spring footing.

The production of anthracite in February is estimated at 4,100,000 tons, making about 9,283,000 tons for the first two months of the year. Though this is very large, it seems to have been pretty well absorbed.

Attention is concentrated chiefly on the miners' meeting, which is referred to in our news columns. While ignoring the invitation to a conference the companies have generally given notice that they will continue for a year the increase of 10% in wages which was granted last fall, to run until April 1st, 1901. It is thought that a majority of the miners will be satisfied with this, though some are inclined to insist on a formal recognition of the union. Whether there will be a strike or not turns mainly on this point.

Bituminous.

The Atlantic seaboard soft coal trade is generally quiet, though there is a slight improvement from last week. The question of labor disturbances seems to be the prominent point of discussion at the moment. At the meeting held in Altoona, Pa., during the week the soft coal miners of Pennsylvania came to an understanding with the operators, fixing the mining rate at 60c. This probably decides the question in this section for the time being at least.

Everybody is awaiting the new prices for coal so as to commence taking season contracts. The Bituminous Association is expected to meet this week to decide upon the figures for the coming year. It is generally believed that last year's prices will be applied. Nevertheless, within the past week there has been some discussion among the trade as to whether they should not make the consumer pay half the advance in the freight rate fixed by the main-line roads; this would make the price of coal 5c. higher than last year.

Trade in the far East is quiet. The inquiry is small and there is still some stock of coal on hand. Trade along the Sound is showing an increased inquiry, though the demand is not up to what it has been recently. Trade in New York Harbor shows little better conditions.

All-rail trade is taking a fair amount of coal, and continues steady. Transportation from mines to tide is good. The car supply is up to all demands, though it is limited in the case of some parties who individually have not given sufficiently prompt dispatch in unloading at tide.

In the coastwise market vessels are in better supply, and it is anticipated that the warmer weather which we have been having will bring out some boats that have laid up during the winter. The Delaware is practically free from ice.

We quote current rates of freight from Philadelphia: To Boston, Salem and Portland, 80c.; Providence, New Bedford and the Sound, 70c.; Wareham and Lynn, 90c.; Newburyport, 95c. to $1; Portsmouth, 85c. Five to 10c. above these rates is charged from the further lower ports. Prices for coal are practically unchanged.

Birmingham, Ala. Mar. 11

(From Our Special Correspondent.)

Alabama's coal production is larger than it ever was. There are no reasons why this condition should not keep up, for there is a greater demand than production. The production will shortly be improved, as before long new mines in Walker and Bibb Counties will be ready to place coal on the market. There is an excellent demand for the product, and as far as can be learned there are no indications of an immediate holding up. The consumption of coal, not alone in this section, but in the surrounding country, is very brisk and the mines are being called on to furnish a large supply of fuel. The railroads are moving the product off well. There is no little amount of the Alabama coal going into iron, but there is a large amount being used in the domestic market.

New coal companies are again intimated. Messrs. T. H. Aldrich and W. P. Pinckard, two well-known developers, are now in Pennsylvania interesting some coal men in the direction of organizing large coal companies to operate in this field. These two gentlemen recently organized a company to work some coal lands in the vicinity of Bessemer, twelve miles south of Birmingham.

Cleveland, O. Mar. 13.

(From Our Special Correspondent.)

The demand for winter coal is beginning to slacken and attention is now being paid to the possibilities of the movement on the lakes this season. The domestic sales have been fairly heavy, but not up to the standard of recent weeks. The consumption is not falling off to any extent, but the heavy buying of the last few weeks has put the consumers ahead of the market a little. Factory consumption is on the increase. As to the possible lake movement the indications are for a late opening of the season of navigation, or, which is equivalent to it, that the boats will not start running as soon as the lakes are free from ice, owing to labor troubles. Reports from the upper lake ports indicate that the consumption during the winter has not entirely cleared the docks, so that there is no immediate need for a large movement early.

The prices on Ohio coal hold about as they have been quoted hitherto: Slack, $1.20; nut, $1.50; run-of-mine, $1.16; three-quarters, $1.80; lump, $2; Massillon, $2.60.

Pittsburg. Mar. 13.

(From Our Special Correspondent.)

Coal.—Nearly 10,000,000 bushels of coal got out on the rise last week. The rivers rose again this week and almost reached the danger line on Monday night, but are navigable to-day, and preparations are being made to send a number of large tows to the Southern markets. It is probable that another shipment of 10,000,000 bushels can be made. Conferences are being held daily on the local features of the mining scale and it is given out that satisfactory progress has been made and that there is no probability of a disagreement and a strike on April 1st, when the new scale goes into effect.

Connellsville Coke.—Last week 728 ovens were added to the active list in the Connellsville coke region and the production was the greatest in its history, 216,445 tons. The week's tonnage was 225,713 tons, an increase of 9,268 tons compared with the previous week. Of the 21,447 ovens in the region, 19,458 are active and 1,989 are idle. The leading producer continues to quote furnace coke at $1.75 and foundry coke at $2.35@$2.50. The shipments for the week aggregated 11,145 cars, distributed as follows: To Pittsburg and river tipples, 3,757 cars; to points west of Pittsburg, 4,981 cars; to points east of Connellsville, 2,407 cars. This was an increase of 474 cars.

San Francisco. Mar. 9.

(From Our Special Correspondent.)

Receipts of coal at San Francisco by water in February were larger than in January, amounting to 120,867 tons, an increase of 12,907 tons, as compared with February, 1900. For the two months ending February 28th the receipts were, in short tons:

	1900.	1901.	Changes.
Eastern U. S.	2,387	4,221	I. 1,834
Oregon	8,285	6,605	D. 1,680
Washington	90,317	121,036	I. 30,719
Total domestic	100,989	131,862	I. 30,873
British Columbia	91,803	81,150	D. 10,653
Australia	33,774	13,738	D. 20,036
Great Britain	23,323	2,492	D. 20,831
Total foreign	148,900	97,380	D. 51,520
Totals	249,889	229,242	D. 20,647

This does not include the coal received from California mines, nor that from Wyoming and Utah mines by rail. The consumption of fuel oil in California has not yet seriously affected the demand for coal, though it has served to keep down the prices.

Shanghai, China. Jan. 23.

(Special Report of Wheelock & Co.)

Coal.—Owing to the reduction of freight rates from Japan there seem to be more sellers of coal than buyers, and the only transactions have been for immediate consumption. For inferior Japan coal buyers can get a substantial reduction. Little doing in Cardiff. Australian Wollongong has had a considerable decline. Arrivals of all kinds of coal for the fortnight ended January 23d were 22,294 tons. Quotations, per ton, are as follows: Welsh Cardiff, 25 taels ($16.75); Australian Wollongong, nominal, cargo, ex-godown, 12 taels ($8.04), and miscellaneous sorts, 6@7 taels ($4.02@$4.69); Chinese, Kaiping, lump, 7.50@10.00 taels ($5.02@$6.70); dust, 5 taels ($3.35), and mixed, 5.50@6 taels ($3.69@$4.02); Japan, all contracted for.

Kerosene Oil.—The market is steady, but a shade lower. Stocks in godown now amount to 624,900 cases of Devoes and 386,200 cases Russian, making a total of 1,011,100 cases. No stock of

Sumatra Langkat except in bulk. Quotations per case are as follows: American Devoes, 1.76½ taels ($1.18); Russian, Anchor Chop, 1.71½ taels ($1.14); bulk oil (2 tins), 1.62½ taels ($1.07), and loose, 1.24 taels (82c.). No quotations for Sumatra Langkat.

Foreign Coal Markets.

Charters for European ports are more frequent. From Virginia ports to Trieste, Austria, prompt sailing, 16s. ($3.84) has been booked, while to Malta or Marseilles, France, 14s. 9d. ($3.54) is the latest contract rate. The latter charter is 1s. 3d. (30c.) lower than was taken recently. There has been great demand for coal for steamship use at Bermuda, and a number of colliers have been plying between there and Norfolk, Va. Coal at Bermuda has advanced from $3 or $4 to $12 per ton. The stormy weather of late has obliged many vessels bound for New York and New England ports to put into Bermuda for coal, hence the advance in the market price of about $9 a ton. With milder weather later in the month, this demand will slacken and prices recede.

We also note a charter from Cardiff, Wales, to Acapulco, Mexico, at 25s. 6d. ($6.12).

Messrs. Hull, Blyth & Company, of London and Cardiff, report under date of March 2d that the tone of the coal market continues strong. Quotations are: Best Welsh steam, $4.32@$4.44; seconds, $4.20; thirds, $4.02; dry coals, $3.72@$3.84; best Monmouthshire, $3.96@$4.08; seconds, $3.72@$3.84; best small steam coal, $1.66@$1.80; seconds, $1.56; other sorts, $1.20.

These prices for Cardiff coal are all f. o. b. Cardiff, Penarth and Barry, while those for Monmouthshire coals are all f. o. b. Newport, exclusive of wharfage, and are for cash in 30 days less 2½% discount.

Tonnage has been offered less freely, owners holding vessels back to keep rates up. Some rates noted are: Genoa, $1.86; Naples, $1.86; Singapore, $4.08; St. Vincent, $1.68; Buenos Aires, $3.36; Rio Janeiro, $3.84.

SLATE TRADE REVIEW.

New York. Mar 15.

The list of prices per square for No. 1 slate standard brand f. o. b. at quarries in car-load lots, is given below:

Size, inches	Monson or Br'ville.	Bangor.	Bangor Ribbon.	Alb'n, or Jackson Bangor.	Chap'n Key's ne	Peach Bottom.	Sea Gr'n.	Unfad'g Green.	Red
	$	$	$	$	$	$	$	$	$
24 x 14	6.50	3.50	3.00	3.00	.	5.10	3.00		.....
24 x 12	6.60	3.50	3.00	3.00	3.80	5.25	3.00	3.75	.....
22 x 12	6 60	3.50	3.25	3.00	...	5.25	3.00	3.75	.....
22 x 11	6.50	3.75	3.25	3.00	4.00	5.25	3.00	4.00	.....
20 x 12	6 90	3.75	.....	3 00	.. .	5.25	3.00	3.75	.....
20 x 11	6.80	.....	.....	3 25	.....	5.25	3.00	.....	.....
20 x 10	6 80	4.25	3.50	3.25	4.00	5.35	3.00	4.25	10.50
18 x 12	6.80	3.75	.....	3.00	.....	5.25	3.00	3.50	.....
18 x 11	7.00	.....	.....	.....	.....	.....	3.00	3.75	.....
18 x 10	7.00	4.25	3.50	3 25	4.00	5.35	3 00	4.00	10.50
18 x 9	7.00	4.50	3.50	3.25	4.00	5.35	3.00	4 25	10.50
16 x 12	6.80	3.75		3.00	.....	.....	2.90	3.50	....
16 x 10	7.00	4.00	3.50	3.25	4.00	5 25	2.90	4.00	10.50
16 x 9	7.00	4.25	.....	3 25	4 00	5.35	2.90	4.25	10.50
16 x 8	7 00	4 50	3.50	3.25	4.25	5.35	2.90	4 25	10.50
14 x 10	6 60	3.75	3.25	3.00	.....	5 25	2.70	3.75	10.50
14 x 9	6.50	.....	.....	.....	.....	.....	2.70	3 75	10.50
14 x 8	6 60	3.75	3.25	3.00	4.00	5.10	2.70	4.25	10.50
14 x 7	6.40	3.75	3.25	3 00	3.75	5.10	2.50	4.25	10.50
12 x 10	5.75	.....	.	.....	.. .	...	2.50	3.25	.....
12 x 9	5.60	.....	.....	.....	... .	...	2.50	3 25	.....
12 x 8	5.50	3.50	.....	2.85	.....	4 85	2.50	3.50	9.00
12 x 7	5.00	3.25	.....	2.85	3 25	4.85	2.00	3.50	9.00
12 x 6	4.80	3 25	.	2 85	3.25	4.75	2.00	3 50	8.50

A square of slate is 100 sq. ft. as laid on the roof.

The spring-like weather of the last few days promises an early resumption of work at the quarries. This year economic conditions are different in many localities, as land has changed hands in the last six or eight months, and operations in the Bangor District in Pennsylvania have been centralized by the consolidation of some of the leading properties. On the other hand, there is more faith in the so-called trade list of prices, as stocks of slate are comparatively smaller, while orders in sellers' hands are better than they have been. In Maine business has improved, and recently some large-sized shipments of slate in various forms have been reported for New England customers. Manufactured slate in Maine will likely show a better season than last year.

IRON MARKET REVIEW.

NEW YORK, Mar. 15, 1901

Pig Iron Production and Furnaces in Blast.

Fuel used	Week ending Mar. 16, 1900. F'ces.	Tons.	Week ending Mar. 15, 1901. F'ces	Tons.	From Jan., '00. Tons.	From Jan., '01. Tons.
An'racite & Coke.	264	286,350	222	285,750	3,098,677	2,775,661
Charcoal.	29	7,175	26	8,175	83,997	83,209
Totals..	293	293,525	248	293,925	3,182 674	2,858,870

The increase in pig iron production this month, as shown by the furnace reports, is large. The weekly capacity of the furnaces in blast is now over 42,000 tons greater than at the opening of the year. At the same time stocks reported have decreased.

The demand for pig iron of all classes, indeed, seems to be increasing and sales have been large. Steel billet orders are also noted.

The business in finished materials is very large, orders and inquiries coming in steadily. Structural material is in demand, while bars and sheets are also called for. Plates are ordered also, and prices are higher. In standard rails not much business is reported, but some large contracts for girder rails are under discussion.

It is reported that on April 1st a further reduction will be made in iron and steel rates from Pittsburg to New York. The new rate will be 10c. per 100 lbs. The present rate, which took effect February 1st, is 13c.; previous to that date it was 18c.

Birmingham, Ala. Mar. 11.

(From Our Special Correspondent.)

The pig iron market in Alabama continues active and there are some healthy orders being received. Inquiries are being made with considerable regularity and many are resulting in orders. There were no further advances made in the quotations during the past week, but the prices have been firm and steady with every indication of taking another move forward. No. 2 foundry is bringing $11.25, while there is a belief that this price will be increased in the near future. The Tennessee Company during the month of February sold more than 102,000 tons of pig iron and it is believed that the sales this month will aggregate a larger amount. The Sloss-Sheffield Steel and Iron Company, the Woodward Iron Company, the Republic Iron and Steel Company, the Tutweiler Coal and Iron Company and the others all had a good month in February. There is no export market right now and but little signs of any for the near future. The local market is holding its own.

The following are the pig iron quotations given: No. 1 foundry, $11.50@$12; No. 2 foundry, $11@$11.50; No. 3 foundry, $10.50@$11; No. 4 foundry, $9.75@$10.50; gray forge, $9@$9.75; No. 1 soft, $11.50@$12; No. 2 soft, $10.50@$11.

There is considerable activity in finished iron. The rolling mills in this State all seem to be busy and full complements of labor are being employed. There are some heavy shipments being made.

The steel trade is very brisk, all things considered. The steel plant at Ensley has more than half of its open-hearth furnaces in operation. The steel wire, rod and nail mill is running with a large force of hands and the goods are shipped out with punctuality. The work on the steel rail mill, belonging to the Tennessee Coal, Iron and Railroad Company at Ensley, is to be pushed to completion, the company to expend something like $200,000 on doing the work. By the time this plant is completed, it is expected that the new works of the Southern Car and Foundry Company, now building near Ensley, and in which pressed steel cars will be made, will also be completed and will give orders to the rail mill.

There is good business being done by the foundries and machine shops in Alabama. All of them seem to have something to do and conditions in the last two weeks or so have taken on a different turn. The Hood Machine and Foundry Company, of this city, during the past week received an order for the first cotton oil mill ever manufactured in Alabama. A cotton seed crusher, weighing 75,000 lbs., will be made. This mill will be built under a new patent for parties in Western Louisiana and if it proves a success the Hood Company is to build a number of others.

Buffalo. Mar. 13.

(Special Report of Rogers, Brown & Co.)

Sales of foundry iron in this territory continue at a most satisfactory rate. Prices continue to stiffen and in some cases quite materially. Shipments of iron on existing contracts are very heavy and taxing the capacity of many furnaces. Taken altogether the market is strong and active. With hardly an exception consumers are experiencing a very satisfactory run for castings, which causes them to cover for iron. We quote below the cash basis, f. o. b. cars Buffalo: No. 1 Strong Foundry coke iron, Lake Superior, $15; No. 2, $14.50; Southern Soft No. 1, $15.75; No. 2, $15.50; Lake Superior Charcoal, $17.50; Coke Malleable, $14.50.

Cleveland, O. Mar. 13.

(From Our Special Correspondent.)

Iron Ore.—A few preliminary conferences have been held by the members of the Ore Association in which prices were discussed, and it is possible that the scale will be fixed in a short time. All expect a large consumption, but the probabilities now apparent are that large quantities of ore will be left on the lower lake docks at the opening of the season of navigation, a quantity, in fact, far in excess of what has been left in recent years. Ore carriers are awaiting the outcome of the strike with the marine engineers before discussing freights for the season. New conditions make it impossible to quote even approximate figures on season's shipments. The ore handlers are in conference with the dock managers here this week and to-day submitted their demands. What these entail has not been given out, but the understanding is that they are willing to accept slight reductions from last year's wage scale.

Pig Iron.—The activity of the market has forced prices still higher this week. Some large sales have also been made, the most remarkable of which is an order for 5,000 tons of Bessemer at an advanced figure. It has now become apparent that the supply at all of the furnaces has been sold up until July 1st, the exceptions to this rule being very few. The prices might be quoted as follows: Bessemer, $16.75; basic, $16.25; foundry No. 1, $15.75; foundry No. 2, $15.25. Scotch irons are quoted the same as foundry.

Finished Material.—The mills took early advantage of the advanced price on plates named by the pool at the New York meeting and the only quotation is 1.60c. A few sales have been made on that basis. Structural material shows up strong. No change has been seen in the prices, which hold at 1.60c. for beams and channels and 1.50c. on angles. The demand for billets is good and while the mill have not changed the pool price it is impossible to purchase material for less than $23.50 or $24. The price paid is dependent largely upon the urgency of the need of the consumer. Bars hold firm at 1.55c., with a fair business going. No orders from steam lines have been taken for rails, although some electric lines are still in the market for small quantities at the pool price.

Old Iron.—Slight changes in scrap prices have been made, due to the better tone of the market. The following figures represent the market fairly: Wrought turnings, $10; cast borings, $6.50; car wheels, $19; steel rails, $16; iron rails, $21; cast scrap No. 1, $13; wrought scrap No. 1, $16.50.

Philadelphia. Mar. 14.

(From Our Special Correspondent.)

Pig Iron.—Standard brands are in one sense out of the market, not because of prices, but simply because makers say there is no particular occasion for pushing business at this time. The market is stronger than last week, even with moderate selling. There is less irregularity of prices, and it applies only to ordinary brands. Forge irons are at present the subject of negotiation, and but for a slight difference of views large contracts would have gone through yesterday. The strength of outside markets is helping to even up prices here, but withal there is no snap to the market. The effort to sell good foundry irons at top prices failed except for small lots. Consumers in this territory take very little stock in the talk of advancing prices. A fair amount of business is done at $16 for No. 1; $15@$15.50 for No. 2; $14.50 for No. 2 plain; $14@$14.50 for standard forge and $14 for basic.

Billets.—The movements in this market do not reflect the exciting conditions outside. Of course prices have moved up to keep pace with mill changes, but the big buyers, if they have bought this week, decline to say so for publication.

Merchant Bars.—The pressure for steel bars resulted this week in an advance of $1 on prompt deliveries, but the average run of buyers have secured supplies of iron bars, so that there is a little relaxation of demand for early deliveries. Reports from several interior points from Reading to Harrisburg show an exceptionally active condition at mills. Store sales are increasing each week, and this sort of trade is done at a mark up of one-tenth. Agents regard the outlook as very bright and see no snags.

Sheets.—The rush of buyers who waited until prompt deliveries were imperative has put the market for some time past in a disturbed condition. In small lots advances are realized. Card, $2.25@$3.50.

Skelp.—The rush for skelp keeps up and higher prices will be realized. There is a great deal of work coming up within the next 60 days.

Pipes and Tubes.—Merchant pipe rules high and concessions are not asked. The thing is to get the stuff.

Merchant Steel.—There is less rush and some evidence of yielding as to prices.

Plates.—This market has been influenced by the meeting of manufacturers and by the advances which conditions in the West have forced. Outside mills have a large amount of work on their books yet. Quarter-inch, 1.60; flange, 1.70; best flange charcoal, 2.75.

Structural Material.—There seems to be nothing to prevent an advance in shapes if the producers ask it. Concerning this, those who represent them refuse to talk. Angles, 1.70@1.80; beams and channels, 1.70@1.80.

Steel Rails.—It is stated Southern roads are now in the market for rails, details held back. Girder rails are strong.

Scrap.—There has been a stirring up among the scrap dealers, who have received instructions from large consumers to secure supplies of

steel and heavy stuff. Choice railroad has advanced to $20@$21; heavy steel scrap, $16@$17; other kinds strong, but not in such active request.

Pittsburg. Mar. 13.

(From Our Special Correspondent.)

The price of pig iron continued to advance during the week and several large sales of Bessemer were made. The highest point reached was $16, Valley furnace for a 5,000-ton order, although one small sale, 100 tons, is reported at $17.25, Pittsburg. Early in the week 2,500 tons were sold at $15.50, Valley furnace, which was followed by the sale of 3,000 tons at $15.75. This iron is for shipment before April 1st. No sales are being made for extended future delivery. Furnacemen are willing to sell ahead at the present rate, which is an indication that much higher prices are not expected. They seem confident that the ore rates for the season will be lower and if the desired reduction is ordered by the ore producers there will be a profit in Bessemer pig iron at $16. Not more than 1,000 tons of foundry No. 2 were sold this week, but the price was higher, $15 now being quoted. There was no change in the price of gray forge, and the demand has not increased. There is a scarcity of steel billets and from $2 to $3 above the pool price can easily be obtained. It is almost impossible to buy open-hearth billets at $25, and no sales are recorded this week. Plates are also scarce and command a premium of at least $2 a ton. The plate pool met in New York last week, and it was given out that no change in prices had been ordered. To-day, however, members of the pool are quoting the advanced price which fixes tank plates at 1.50c., Pittsburg. The demand for steel bars has been unusually heavy this week and the price has been advanced $2 a ton. There was a slight falling off in the demand for structural material last week, but the mills are all busy again and an improvement is expected. It is likely that the associated manufacturers will meet in a week or two and put up prices. An advance of $5 a ton is predicted. There is no change in the prices of sheets, but the American Sheet Steel Company is not quoting prices for more than 60 days' delivery. The American Tin Plate Company has issued orders to start the plant at Ellwood City, Pa., this week. It has been idle since June 30th, 1900. The Monongahela plant in this city will be put in operation on Monday. Several other idle plants are soon to be started.

The bi-monthly adjustments of the iron, tin plate and sheet scales are to be made this week. the conference on the iron scale will be held at Youngstown to-morrow, when James H. Nutt, secretary of the labor bureau of the Republic Iron and Steel Company, and John Williams, secretary of the Amalgamated Association, will examine the sales sheets. While bar iron, on which the wage scale is based, is quoted at 1.50c., which would give the puddlers a rate of $5.25 a ton, an advance of 50c. over the present wages, it is not likely that the records of sales will show more than an average of 1.30c., and there will be no change in the wages. The tin plate workers do not expect an advance, as the base of their scale is $4.20 a box, and the sales for the past two months have not exceeded $4 a box. The sheet workers are not likely to get an increase before the next bi-monthly adjustment, as prices were not advanced above the base of their scale until recently. During January and February all sales were under the basing point.

Pig Iron.—Over 10,000 tons of Bessemer pig iron were sold during the week at prices ranging from $15.50 to $16, Valley furnaces. It is all for delivery this month. One small lot is reported at $17.25, Pittsburg, but it was for immediate shipment. About 1,000 tons of foundry No. 2 were sold at $15, Pittsburg. Sales of gray forge aggregated 3,000 tons at $14@$14.25, Pittsburg.

Steel.—Bessemer steel billets are in strong demand, but are scarce. About 1,200 tons were sold at $21.75@$22.25. No sales of open-hearth billets are recorded, but $25 is offered. Steel bars have advanced $2 a ton and are quoted this week at 1.45@1.50c. Tank plates remain at 1.50c.

Sheets.—The demand for sheets continues, and the American Sheet Steel Company is not quoting for more than 60 days' delivery. No. 28 gauge is quoted at 3.15@3.20c., and galvanized sheets are 70 and 10% off with no allowance for freight.

Ferro-manganese.—There is no change in prices this week, the leading producer continuing to quote 80% domestic at $62.50.

New York. Mar. 15.

The local market is not very active, the only demand above the average being for structural iron and plates.

Pig Iron.—The local market is not specially active. Prices are firmer, but no higher. We quote for Northern iron, tidewater delivery: No. 1 X foundry, $16.25@$17.25; No. 2 X, $15.50@$16; No. 2 plain, $14.75@$15.25; gray forge, $14.50@$14.75. For Southern irons on dock, New York: No. 1 foundry, $15.25@$15.75; No. 2, $14.50@$15; No. 3, $14.25@$14.50; No. 4, $13.50@$14; No. 1 soft, $15.25@$15.75; No. 2, $14.50@$15.

Bar Iron and Steel.—Demand is steady. We continue to quote common bars at 1.35c. for large lots on dock; refined bars, 1.45c.; soft steel bars, 1.50c.

Steel Rails and Rail Fastenings.—Nothing is doing in standard rails, but several contracts for girder rails are under discussion. Standard sections are still quoted at $26 at Eastern mills; light rails at $26@$30, according to weight. Spikes are 1.55c.; splice bars, 1.30c.; bolts, 2.10@2.25c.

Plates.—Demand continues good, and a farther increase in prices is expected. We quote for large lots at tidewater: Tank, ¼-in. and heavier, 1.70c.; flange, 1.80c.; marine, 1.95c.; universal, 1.70c.

Structural Material.—Some large contracts are being figured on, and business is good. We continue to quote at tidewater: Beams, 1.65c.; channels, 1.65c.; angles, 1.30c.; tees, 1.70c.; zees, 1.65c.

METAL MARKET.

New York. Mar. 15.

Gold and Silver.

Gold and Silver Exports and Imports
At all United States ports in January and year.

Metal.	January.		Year.	
	1900.	1901.	1900.	1901.
GOLD.				
Exports	$5,691,290	$8,221,159	$5,691,290	$8,221,159
Imports	1,992,692	4,161,012	1,992,692	4,161,012
Excess	E. $3,698,598	E. $4,060,147	E. $3,698,598	E. $4,060,147
SILVER.				
Exports	4,599,199	4,790,239	4,599,199	4,790,239
Imports	2,174,573	3,169,034	2,174,573	3,169,034
Excess	E. $2,424 626	E. $1,621,205	E. $2,424.626	E. $1,621,205

These figures include the exports and imports at all United States ports, and are furnished by the Bureau of Statistics of the Treasury Department.

Gold and Silver Exports and Imports, New York

For the week ending March 14th, 1901, and for years from January 1st, 1901, 1900, 1899 and 1898.

Period.	Gold.		Silver.		Total Excess, Exp. or Imp.
	Exports.	Imports.	Exports.	Imports.	
We'k	$117,000	$5,720	$704,653	$17,664	E. $798,269
1901..	9,145,520	620,473	7,725.073	728,103	E. 15,522,017
1900..	2,396,206	1.029,283	8,845,219	963,599	E. 8,888,543
1899..	872,429	4,034.483	6,236,400	502,559	E. 2.481,777
1898..	3,533,536	15,900,819	8,551,555	566,877	I. 4,382,605

Exports of gold were to the West Indies chiefly; of silver to London. Imports of gold and silver came from the West Indies and Mexico.

The United States Assay Office in New York reports the total receipts of silver at 39,000 oz. for the week. This makes a total of 764,000 oz. from January 1st.

Average Prices of Silver per oz. Troy.

Month.	1901.		1900.		1899.	
	Lond'n Pence.	N. Y. Cents.	Lond'n Pence.	N. Y. Cents.	Lond'n Pence.	N. Y. Cents.
January...	28.97	63 12	27.30	59.30	27.42	59.36
February..	28.13	61.06	27.49	59 76	27.44	59.42
March.....	.....	.....	27.59	59.81	27.48	59.64
April.....	.....	.....	27.41	59.59	27.65	60.10
May.....	.....	.....	27.56	59.96	28.15	61.23
June.....	.....	.....	27.81	60.42	27.77	60 43
July.....	.....	.....	28.23	61.25	27.71	60 26
August....	.....	.....	28.13	61.14	27.62	60.00
September	.....	.....	28.85	62.63	27.15	58.89
October ..	.....	.....	29.58	63.83	26.70	57.98
November	.....	.....	29.66	64.04	27 02	58.67
December.	.....	.....	29.68	64.14	27.21	58.99
Year....	.....	.....	28.17	61.41	27.44	59.58

The New York prices are per fine ounce; the London quotation is per standard ounce, .925 fine.

Average Prices of Metals per lb., New York.

Month.	COPPER.		TIN.		LEAD.		SPELTER.	
	1901.	1900.	1901.	1900.	1901.	1900.	1901.	1900.
Jan.....	16.25	15 58	26.51	27.07	4.35	4.68	4.13	4.65
Feb.....	16.38	15.78	26.68	30.58	4.35	4.675	4.01	4.64
March...	.....	16.29	.....	32.90	.....	4.675	.....	4.60
April....	.....	16.76	.....	30.90	.....	4.675	.....	4.71
May.....	.....	16.34	.....	29.37	.....	4.181	.....	4.53
June.....	.....	15.75	.....	30 50	.....	3.901	.....	4.29
July.....	.....	15.97	.....	33.10	.....	4.030	.....	4.28
August...	.....	16.35	.....	31.28	.....	4.250	.....	4.17
Sept.....	.....	16.44	.....	29.42	.....	4.350	.....	4.11
October..	.....	16.37	.....	28.54	.....	4.350	.....	4.15
Nov.....	.....	16.40	.....	28 25	.....	4.350	.....	4.29
Dec.....	.....	16.31	.....	26.94	.....	4.350	.....	4.25
Year.....	.....	16.19	.....	29.90	.....	4.37	.....	4.39

The prices given in the table for copper are the averages for electrolytic copper The average price for Lake copper for the ye r 900 was 16.52c.; for the month of January, 1901, it was 16 7c.; for February, 16.90c.

Prices of Foreign Coins.

	Bid.	Asked
Mexican dollars.....	$ .49	$ .51
Peruvian soles and Chilean pesos....	.43½	.46½
Victoria sovereigns.....	4.85	4.88
Twenty francs	3.84	3.88
Twenty marks.....	4.73	4.78
Spanish 25 pesetas.....	4.78	4.82

Financial Notes of the Week.

Business continues steady, although the speculative markets are rather unsettled. Money is

Imports and Exports of Metals.

Port.	Week, Mar. 13.		Year 1901.	
	Expts.	Impts.	Expts.	Impts.
New York. (N. Y. Metal Exchange.)				
Aluminum.....long tons	13	.....	41	25
Antimony ore... " "	.....	34	.....	143
" regulus.. " "	.....	54	19	267
Copper, fine..... " "	1,316	100	15,283	3,161
" matte.. " "	.....	.....	374	30
" ore..... " "	.....	3,360	.....	13,390
" ash..... " "	.....	.....	.....	.....
Iron ore ..... " "	.....	.....	.....	.....
" pig, bar, rod " "	.....	25	5,180	499
" pipe..... " "	817	.....	4,984	.....
" plates, sheets " "	52	.....	201	.....
Lead..... " "	2,237	25	16,374	11,100
" ore..... " "	.....	.....	.....	.....
Manganese, ore. " "	100	39	100	1,274
Metals, old, scrap " "	.....	16	591	417
Composition... " "	.....	.....	2,988	.....
Nails..... " "	271	.....	1,982	...
Nickel ... " "	11	.....	362	27
" ore, matte " "	.....	3,020	.....	11,590
Railr'd material. " "	1,178	35	6,962	475
Rails, old..... " "	.....	.....	.....	.....
Steel bars, plates " "	1,118	335	18,778	2,491
" rails..... " "	5,868	.....	20 308	.....
" wire..... " "	965	.....	7,030	.....
Tin ..... " "	.....	910	230	5.182
" and black plates " "	.....	122	.....	5,334
" dross..... " "	.....	.....	.....	.....
Zinc..... " "	13	.....	320	523
" dross..... " "	.....	.....	123	.....
" ashes, skim " "	.....	.....	235	.....
" ore..... " "	.....	.....	4,109	.....
Baltimore. (Special Correspondence).				
Antimony.....long tons	.....	5	.....	10
Copper, fine..... " "	231	361	4,917	1,575
Iron pig, bar, etc. " "	73	.....	1,218	1,790
" ore..... " "	.....	3,050	.....	47.034
Manganese ore.. " "	.....	.....	.....	3,250
Nails ..... " "	.....	.....	306	.....
Pipe, iron & steel " "	.....	.....	582	.....
Spiegeleisen..... " "	.....	.....	.....	125
Steel, bars, etc.. " "	20,884	.....	29,650	67
" wire ..... " "	.....	.....	566	24
" rails..... " "	3,279	.....	22,742	.....
Tin..... " "	.....	.....	.....	175
" and blackplates " "	.....	.....	.....	97
Zinc..... " "	.....	.....	.....	.....
Philadelphia.				
Copper, fine.....long tons	161	.....	493	.....
" ore. ..... " "	.....	7,860	.....	7,860
Iron, pig, bar ... " "	.....	267	134	1,407
" ore..... " "	.....	13,940	.....	52,710
" pipe ..... " "	301	.....	318	.....
Lead..... " "	.....	.....	200	.....
Metals, old ..... " "	.....	.....	11	.....
" composition " "	.....	.....	7	.....
Nails ..... " "	.....	.....	44	.....
Railroad material " "	.....	.....	62	.....
Steel, bars, etc.. " "	.....	.....	3,536	.....
" rails ..... " "	3,230	.....	3,569	.....
" wire ..... " "	14	.....	117	.....
Tin ..... " "	.....	.....	.....	140
" and black plates " "	.....	.....	.....	4
Zinc ore..... " "	.....	.....	2,061	.....
" dross ..... " "	.....	.....	77	.....
" ash..... " "	26	.....	32	.....

Total United States.

Articles.	Jan., 1901.		Jan., 1900.	
	Expts.	Impts.	Expts.	Impts.
Antimony.....long tons	.....	171	.....	86
" ore.... " "	2	17	.....	342
Copper, in all forms..... " "	10,003	7,980	14,035	6,435
Iron, pig & bar.. " "	24,722	2,276	9,931	6,841
" ore..... " "	440	33,353	.....	89,715
Iron & steel plates " "	5,235	188	1,985	1,171
Iron & steel rails " "	25,596	116	17,406	288
" " wire " "	6,339	828	6.229	137
Lead, in all forms " "	10,381	15,512	4,779	4,302
Manganese ore and oxide..... " "	.....	8,809	.....	35,256
Nickel " & matte " "	240	12	131	.....
Nails, cut..... " "	3,167	.....	835	.....
" wire..... " "	1,603	.....	4,195	.....
Quicksilver..... " "	24	.....	27	.....
Steel, billets, rods, etc..... " "	8,987	1,241	2,339	4,596
Tin..... " "	52	3.316	8	4,927
" & black plates " "	101	4,495	15	6,389
Zinc..... " "	50	129	1,096	224
" ore ..... " "	3,061	.....	2,259	...

Import Duties on Metals.

The duties on metals under the present tariff law are as follows: Antimony, metal or regulus, ¾c. a lb. Lead, 1½c. a lb. on lead in ores; 2½c. per lb. on pigs, bars, etc.; 2½c. on sheet, pipe and manufactured forms. Nickel, 6c. per lb. Quicksilver, 7c. per lb. Spelter or zinc, 1½c per lb. on pigs and bars, 2c. on sheets, etc. Copper, tin and platinum are free of duty.

not so easy and rates are generally higher than for some weeks past.

The silver market has been dull and fluctuations have been very small. In London there was only ½d. difference between the lowest and highest quotations, the market closing at 28 3/16d. The New York market was equally narrow, in the absence of any special demand.

The statement of the United States Treasury on Wednesday, March 13th, shows balances in excess of outstanding certificates as below, compared with the corresponding day last week:

	Mar. 6.	Mar. 13.	Changes.
Gold	$84,959,084	$89,683,755	I. $4,724,671
Silver	18,849,050	18,577,329	D. 271,721
Legal tenders	11,873,790	11,237,322	D. 636,468
Treas. notes, etc.	179,974	111,553	D. 68,421
Totals	$115,861,898	$119,609,959	I. $3,748,061

Treasury deposits with national banks amounted to $98,089,923, showing an increase of $547,742 as compared with the corresponding day last week.

The statement of the New York banks—including the 66 banks represented in the Clearing House—for the week ending March 9th, give the following totals, comparison being made with the corresponding week in 1900 and 1899:

	1899.	1900.	1901.
Loans and discounts	$777,545,700	$763,203,100	$918,789,600
Deposits	906,655,200	829,425,700	1,011,928,500
Circulation	14,468,500	18 934,900	31,469,000
Reserve:			
Specie	196,200,100	152 729,600	191,134,100
Legal tenders	53,666,700	60,303,200	72,565,200
Total reserve	$249,866,800	$213,032,800	$263,699,300
Legal requirements	226,663,800	207,359,425	252,982,125
Balance, surplus	$23,203,000	$5,673,375	$10,717,175

Changes for the week, this year, were increases of $4,580,200 in loans and discounts, and $160,000 in circulation; decreases of $585,500 in deposits, $2,814,400 in specie, $1,415,800 in legal tenders, and $4,083,825 in surplus reserve.

The following table shows the specie holdings of the leading banks of the world at the latest dates covered by their reports. The amounts are reduced to dollars, and comparison is made with the holdings at the corresponding date last year:

Banks.	1900. Gold.	1900. Silver.	1901. Gold.	1901. Silver.
N. Y. Ass'd	$152,729,600	.....	$191,134,100	.....
England	177,489,000	.....	181,573,945	.....
France	384,341,705	$228,174,860	475,528,340	$218,963,010
Germany	137,630,000	70,900,000	147,480,000	75,975,000
Spain	68,170,000	75,070,000	70,005,000	82,725,000
Neth'l'ds	26,260,000	30,140,000	25,269,500	28,779,000
Belgium	14,930,000	7,465,000	14,430,000	7,215,000
Italy	77,060,000	7,975,000	77,055,000	9,321,000
Russia	418,755,000	30,745,000	368,870,000	33,805,000

The returns of the Associated Banks of New York are of date of March 9th and the others are of date of March 8th, as reported by the "Commercial and Financial Chronicle" cable. The New York banks do not report silver separately, but the specie carried is chiefly gold. The Bank of England reports gold only.

Shipments of specie by water from San Francisco in February included $136,270 gold and $207,758 silver. For the two months ending February 28th the shipments were as follows:

	Gold.	Silver.	Totals.
Hongkong	$4,529	$337,158	$341,687
India	...	30,000	30,000
Central America	720	.....	720
Total foreign	$5,249	$367,158	$372,407
New York	485,896	123,312	609,208
Total	$491,145	$190,470	$981,615

The silver was shipped in the following forms: Bars, $155,760; United States coin, $123,312; Mexican dollars, $207,633; Peruvian sols, $3,765. The gold was all in coin. The shipment of silver to India is the first for over a year.

Shipments of silver from London to the East for the year up to February 28th, 1901, are reported by Messrs. Pixley & Abell's circular as follows:

	1900.	1901.	Changes.
India	£985,727	£1,483,500	I. £497,773
China	209,229	74,875	D. 134,354
The Straits	12,250	48,976	I. 36,726
Totals	£1,207,206	£1 607,351	I. £400,145

Arrivals for the week, this year, were £340,000 in bar silver from New York, £7,000 from the West Indies, £3,000 from Australia, £2,500 from Chile; total, £352,500. Shipments were £83,000 in bar silver to Bombay and £60,000 to Calcutta; total, £143,000.

Indian exchange is a shade easier, and Council bills sold in London at 15.92d. per rupee. The freer offering of bills has stopped the demand for gold on Indian account. There is still some buying of silver for shipment to India, but the amount is moderate just now.

Other Metals.

Daily Prices of Metals in New York.

March.	Sterling Exchange.	Silver. Fine oz. (cts.)	Silver. London. Pence.	Copper. Lake, cts. ₱ lb.	Copper. Electrolytic ₱ lb.	Copper. London £ ₱ ton.	Tin, cts. ₱ lb.	Lead cts. ₱ lb.	Spelter. N. Y. cts. ₱ lb.	Spelter. St. L. cts. ₱ lb.
9	4.87¼	60⅝	28 1/16	16⅞ @17	16.40 @16.50	....	26¾	4.32½ @4.37½	4.00	3.80
11	4.87¼	60⅞	28 1/16	16⅞ @17	16.35 @16.45	70 3/16 @26	25¾	4.32½ @4.37½	4.00	3.80
12	4.87⅛	60⅞	28 1/16	16⅞ @17	16.35 @16.45	70	26	4.32½ @4.37½	3.95	3 75
13	4.87¼	61⅛	28 3/16	16⅞ @17	16 35 @16.45	69⅝	26	4.32½ @4.37½	3.95	3.75
14	4.87¼	61⅛	28 3/16	16⅞ @17	16.35 @16.15	68¼	26	4.32½ @4.37½	3.90	3.75
15	4.87¼	60⅞	28 1/16	16⅞ @17	16.35 @16.45	68¼	26	4.32½ @4.37½	3.90	3.75

London quotations are per long ton (2,240 lbs.) standard copper, which is now the equivalent of the former g. m. b's. The New York quotations for electrolytic copper are for cakes, ingots or wirebars; the price of electrolytic cathodes is usually 0.25c. lower than these figures.

Copper.—The market is very quiet. In this country consumption remains excellent, but buyers have covered themselves for the moment and transactions have been rather restricted. Reports from Europe are not good, and business over there appears to have fallen off considerably. The market in general has become rather nominal and quotations have to be reduced somewhat. We quote Lake copper at 16⅞@17c.; electrolytic copper in cakes, wirebars and ingots at 16.35@16.45c.; in cathodes at 16.10@16.20c.; casting copper at 16⅜c.

The market for standard copper in London has declined. It closed last week at £70 10s. for spot, £71 for three months, and opened on Monday 5s. lower. On Wednesday it sold down to £69 7s. 6d. for spot, £70 for three months, and on Thursday as low as £68 7s. 6d. was done for spot. However, a quick reaction followed to £68 16s. At the close the quotations are cabled as £68 15s. for spot and £69 5s. for three months.

Refined and manufactured sorts we quote: English tough, £74@£75; best selected, £76@£76 10s.; strong sheets, £85; India sheets, £82; yellow metal. 6¾d.

Copper production, as reported by Mr. John Stanton, who acts as statistician for the producing companies, was as follows, for February and the two months ending February 28th, stated in long tons (2,240 lbs.) of fine copper:

	February. 1900.	February. 1901.	Two months. 1900.	Two months. 1901
U. S., reporting mines	17,497	17,700	35,110	36,979
U. S., outside sources	3,400	3,400	6,800	6,800
Total United States	20,897	21,100	41,910	43,779
Foreign, reporting mines	7,241	7,332	13,109	13,242
Total	28,138	28,432	55,019	57,021
Exports, United States	12,749	6,453	26,734	16,456

For the two months United States production shows an increase of 1,869 tons, or 4.5%. The United States exports show a heavy reduction this year—10,278 tons, or 38.4%. The output of the foreign reporting mines was nearly stationary, showing an increase this year of 133 tons, or 1.0%, only.

Tin.—The market has been quite irregular. In sympathy with the decline in London spot tin sold down to 25¾c. early in the week, but later recovered again and at the close we quote 26c. for spot, 25½@25¾c. for futures. Business has not been of large volume.

The London market, which closed last week at £118 for spot, £114 5s. for three months, on Monday sold down to £116 12s. 6d. for spot, £113 17s. 6d. for three months. Tuesday it rose 17s. 6d. and remained steady throughout the week. The closing quotations are cabled as £116 for spot, £113 7s. 6d. for three months.

Lead.—The market is without change. We quote 4.22½@4.32½c. St. Louis, 4.32½@4.37½c. New York.

The foreign market has been quiet and weakish, Spanish lead being quoted at £13 2s. 6d.@£13 5s., English lead 5s. higher.

St. Louis Lead Market.—The John Wahl Commission Company telegraphs us as follows: Lead is uninteresting. Chemical lead is quoted 4.22½c.; Missouri refined, 4.25c., and argentiferous, 4.32½c. Trading is exceedingly light, neither buyers nor sellers anticipating any change in values, and on this account operate from hand to mouth only.

Spelter.—The market has relapsed into dulness. Consumption is good, but buyers are covered for the near future, and are not purchasing much. Some business is reported at slightly lower figures. We quote St. Louis at 3.75c., New York at 3.90c.

The foreign market is again lower, good ordinaries being quoted at £16 10s., with specials 5s. higher.

Antimony.—We quote Cookson's at 10c.; Hallett's Hungarian, Italian and U. S. Star at 8¾c.

Nickel.—The price continues firm at 50@60c. per lb., according to size and terms of orders.

Platinum.—Consumption continues good and prices are strong. For ingot platinum in large quantities $18.20 per Troy oz. is quoted in New York. In London a recent quotation gives 75s. per ounce, unmanufactured, and 77s. 6d.@80s. for crucibles, etc. This is very nearly on a parity with New York prices.

Chemical ware (crucibles and dishes), best hammered metal from store in large quantities, is worth 2c. per gram.

Quicksilver.—While $51 is still nominally quoted in New York, there has been some selling at $48.75@$50 per flask for large lots; while $50@$51 is quoted for small orders. San Francisco quotations are $47.50@$48 for domestic orders, $43@$43.50 for export. The London price is £9 2s. 6d. per flask.

Minor Metals and Alloys.—Wholesale prices, f. o. b. works, are as follows:

Aluminum.	Per lb.		Per lb.
No. 1, 99% ingots	33@37c.	Ferro Titanium (20%)	$1.10
No. 2, 90% ingots	31@34c.	Ferro-Tungsten (37%)	32c.
Rolled sheets	42c. up	Magnesium	$2.75@3
Alum.-bronze	20@23c.	Manganese (over 99%)	$1.00
Nickel-alum	33@39c.	Mangan'e Cop. (20% Mn)	32c.
Bismuth	$2.25	Mangan'e Cop. (30% Mn)	38c.
Chromium (over 99%)	1.00	Molybdenum (Best)	$1.45
Copper, red oxide	50c.	Phosphorus	50c.
Ferro-Molyb'um (50%)	$1.00	American	70c.
Ferro-Titanium (10%)	90c.	Tungsten (Best)	78c.

Variations in prices depend chiefly on the size of the order.

LATE NEWS

It is reported that the Diamond State Steel Company, which now has an authorized capital of $3,000,000 (in shares of $10 par value, on which $6.25 has been paid in) will be reorganized under the same name with a capital of $2,250,000 7% preferred stock and $2,000,000 common stock, each having a par of $10 full paid and $1,000,000 4% 100-year first mortgage bonds, the bonds to go to the Diamond State Iron Company.

Exports from the United States in February were $112,947,361, showing a considerable falling off from January, though the amount was still large. For the two months ending February 28th the statement of the Bureau of Statistics is as follows:

	1900.	1901.
Exports	$237,024,133	$249,272,999
Imports	144,731,043	133,229,319
Excess, exports	$92,293,090	$116,043,680
Excess of exports, silver		3,371,777
Excess of exports, gold		2,647,485
Total apparent balance		$122,062,942

Exports of silver continue large. The gold movement for the two months was comparatively light.

At the annual meeting of the stockholders of the Osceola Mining Company of Michigan in Boston, March 14th, the old board of directors was re-elected by a vote of 70,340 shares. In answer to a question concerning the price at which the management sold some treasury stock last year, President Bigelow stated that the average price received for the 2,600 shares was $72 per share, and that the high price during the year for Osceola shares was 79, and the lowest 58. The stock was sold on the market, usually in blocks of 200 shares, and as the money was needed for the payment of bills, the stock was sold to provide the necessary funds. Another stockholder wanted to know what Osceola's product in refined copper was and what it cost per pound to mine it. President Bigelow said such information was not given to the public, as in the opinion of the directors such publicity would be unwise.

(From Our Special Correspondent.)

Birmingham, Ala., March 13th.—Pig iron and cast iron pipe shipments in February were very satisfactory. Pig iron shipments from Alabama and Tennessee were 114,261 tons. From the Birmingham District alone they were 65,206 tons, 4,823 tons for export. Cast iron pipe shipments from Alabama and Tennessee were 10,490 tons, from the Birmingham District alone 5,414 tons, exported 240 tons. The shipments of cast iron pipe are over 100% greater than they were this time last year.

(From Our Special Correspondent.)

Tintic, Utah, March 11th.—The ore shipments from the rail points of the Tintic District for the week ending March 9th amounted to 193 cars. Following are the contributors: Centennial Eureka, 75 cars; Bullion-Beck, 15 cars; Gemini, 16 cars; Humbug, 5 cars; May Day, 4 cars; Godiva, 5 cars; Grand Central, 7 cars; Lower Mammoth, 5 cars; Mammoth, 19 cars; Ajax, 3 cars; Carissa, 7 cars; Tesora, 5 cars; Swansea, 14 cars; Star Consol, 2 cars; South Swansea, 8 cars; Boss Tweed, 1 car; Morning Glory, 1 car; Moore & Clinton, 1 car. Six cars of concentrates and 3 cars of bullion were sent out from the Mammoth Mill.

CHEMICALS AND MINERALS.

(For further prices of chemicals, minerals and rare elements, see page 356.)

New York. Mar. 15.

The imports and exports of chemicals, etc., at all United States ports in January, 1901, and 1900, were as below:

Articles.	Jan., 1900.		Jan., 1901.	
	Imports.	Exports.	Imports.	Exports.
Bleaching Powder, lbs.	10,774,877	.....	11,521,425	50
Caustic Soda, lbs.	1,036,694	113,565	323,552	84,006
Sal Soda, lbs	545,206	.....	283,240	.....
Soda Ash, lbs.	12,369,969	.....	2,995,690	.....
Chlorate of Potash, lbs.	84,373	3,920	78,791	31,840
Copper Sulphate, lbs.	.....	4,238,521	.....	4,570,435
Nitrate of Soda, tons.	7,836	300	17,897	221
Muriate of Potash, lbs.	11,298,565	.....	18,799,336	.....
Phosphate Rock, tons.	15,255	44,013	20,536	43,761
Pyrites, "	25,560	.....	27,402	.....
Brimstone "	13,315	4	18,087	151
Saltpeter, lbs.	1,788,814	.....	592,703	.....

Imports of the more important articles generally show an increase, while exports consisted chiefly of imported goods. Domestic copper sulphate exports are growing.

Heavy Chemicals.—There is comparatively little doing outside of contract deliveries. We hear of some export orders for soda ash and some shipments have already been made to Australia. Sal soda has weakened in the West to 40c. per 100 lbs., f. o. b. works, but no change is yet noticeable in Eastern markets.

We quote per 100 lbs. as follows: Domestic soda ash in bulk is worth 2¾c. per 100 lbs. less than quotations below:

Articles.	Domestic.		Foreign.
	F.o.b. Works.	In New York.	In New York.
Alkali, 58%.	70@80	.....	85@87½
" 48%.	80@85	.....	.....
Caustic Soda, high test.	$1.70@$1.85	.....	1.85@1.87½
powd., 60%.	.....	2.75	.....
70@74%.	.....	2.85	.....
98%.	.....	3 25	3.75@4.00
Sal Soda	50	60	67½
"conc.	1.25@1.50	.....	1.75
Bicarb. Soda.	1.00@1.12½	.....	1.37½@1.75
" " extra	3.25@3.50	.....	.....
Bleach Pdr., Eng. prime.	.....	.....	2.00@2.10
other br'nds.	.....	.....	1.75@1.90
Chl. Pot cryst	.....	8.00@8.25	9.00@9.25
" powd.	.....	8.25@8.50	9.25@9.50

Emery Ore.—New York arrivals this week were 1,550 tons from Smyrna. There is an improved demand for the sharper grades for emery wheel manufacture.

Acids.—Consumers are calling for fair-sized deliveries on their contracts. Blue vitriol is in better request for export, and with continued easy freight rates we anticipate a large movement.

Quotations as below are for large lots delivered in New York and vicinity, per 100 lbs. unless otherwise specified.

Acetic, No.8	$1.62½	Nitric, 36°	$3.87½
Blue Vitriol.	5.00@5.25	Nitric, 38°	4.12½
Aqua Fortis, 36°	3 62½	Nitric, 40°	4.37
Aqua Fortis, 38°	3 87½	Nitric, 42°	4.75
Aqua Fortis, 40°	4.12½	Oxalic	5.75@6.00
Aqua Fortis, 42°	4.50	Sulphuric, 66°	1.20
Muriatic, 18°	1.20	Sulphuric, 60°	1.05
Muriatic, 20°	1.35	" bulk 50° ton	14.00
Muriatic 22°	1.50		

Brimstone.—No arrivals at New York this week. Market is quiet. Spot best unmixed seconds continue high at $26 per ton, while shipments are quoted at $21.25@$21.50, and nearby arrivals, $22. Best thirds are quoted $2 per ton less than seconds. The imports of brimstone and refined sulphur into France in 1900 amounted to 132,136 long tons, showing an increase of 12,563 tons, or 9½% over 1899. This increase was due largely to the heavier manufacture of fertilizers.

Pyrites.—New York imports this week were 3,360 tons copper pyrites from Spain. A charter from Huelva to Charleston is noted at 9s. ($2.16) this month's sailing. Importers continue to quote 12c. per unit, though it is understood contracts have been taken at less. In France consumption has increased materially, and imports last year amounted to 154,025 long tons, against 107,737 tons in 1899. American pyrites are also in good request, though fertilizer people are not ordering in a very large way, owing to the moderate demand for their goods. We quote as follows: Mineral City, Va., lump ore (basis 45%), $4.90 per long ton, and fines $4.50. Charlemont, Mass., lump, $5.50 and fines $5. Spanish pyrites, 12c. delivered ex-ship New York and other Atlantic ports. Spanish pyrites contain from 46@51% of sulphur; American from 42@44%.

Fertilizing Chemicals.—Further large buying of leading ammoniates by Southern fertilizer makers is reported, and prices are steady. A dispatch from Savannah, Ga., states that the plant of the Virginia-Carolina Chemical Company was destroyed by fire on March 2d. The fire started in the pyrites burners. The loss, $115,000, is fully covered by insurance. The agents of the German Kali Works announced the customary advance in potash salt prices on March 1st, and report increased sales this year.

Quotations on leading ammoniates are as follows: Sulphate of ammonia, gas liquor, $2.77½@$2.80 per 100 lbs.; blood, high-grade, $2.20 per unit, f. o. b. Chicago; tankage, high grade, $2.07½ and 10c. per unit, f. o. b. Chicago; Calcutta bonemeal, $20@$24 per ton, as to quality; domestic steam ground bone, $18@$18.50 per ton. Potash salts quotations for New York, Boston or Philadelphia shipment are as follows: Muriate of potash, 80@85%, $1.83 per 100 lbs.; muriate of potash, 95%, $1.86; sulphate of potash, 90%, $2.11; sulphate of potash, 96%, $2.13 per 100 lbs.; double manure salt, 48@53%, $1.12 per 100 lbs.; kainit, 12.4% potash, $9.05 per ton at port of shipment, and $9.30 ex-vessel at port of importation; sylvinit, 38½@39½c. per unit of sulphate of potash; manure salt, 20% actual potash, 64@66c. per 100 lbs.

Nitrate of Soda.—Owing to the recent heavy deliveries to consumers the market is quiet, and spot nitrate is in very little demand. Futures are in little more request. All positions are quoted $1.82½ per 100 lbs. The next cargoes due are the "Nyanza," with 41,050 bags, and the "Membland," with 33,000 bags. Concerning the European market it is learned that the February shipments from the West Coast of South America were fully 7,000 tons less than last year, while the loadings on March 1st were about 12,500 tons less than 1900. Yet the total shipments to Europe in January and February are greater than last year by about 3,000 tons. Complaint is heard that the severe cold weather on the Continent has interfered with shipments to consumers, and in consequence some points are stocked waiting transportation.

Phosphates.—There is a little more buying, but orders are not large. In Florida miners report a larger movement of high grade rock from Savannah to Germany. In the two months ending February 28th the total shipments from Savannah were 26,492 long tons, or 7,104 tons more than last year. From all ports the shipments of high-grade Florida phosphate rock in January are reported by Messrs. Auchincloss Brothers, as below, in long tons of 2,240 lbs.:

Destination.	1899	1900	1901
Baltic ports	.....	3,008	5,110
Continental	17,473	18,143	11,836
United Kingdom	10,070	2,208	677
United States	917	.....	.....
Total, tons	28,460	23,359	17,623

It is noteworthy that in the present year the January exports fell off 5,736 tons, or 24½%, from 1900, and 10,837 tons, or 38%, from 1899. This decrease is due chiefly to the smaller movement to Continental ports, where superphosphate manufacturers are disinclined to buy rock at ruling prices.

In Tennessee there is talk of consolidating all the Mt. Pleasant mines. The shipments from this district in January and February totaled 72,948 long tons, showing an increase of 7,714 tons, as compared with last year. The exports of Tennessee high-grade rock in the two months in the present year from Pensacola amounted to 23,291 long tons, as against 24,656 tons in 1900. It is reported that the American Phosphate Company, which has a modern plant and extensive land in Tennessee, is in difficulties, having assigned with liabilities of over $500,000.

South Carolina mines are shipping less. The movement from Charleston from September 1st, 1900, to March 1st, 1901, amounted to 20,528 tons, against 31,398 tons for the same time in 1899-1900. In 1901 only 1,004 tons were exported.

Concerning foreign phosphates it is learned that the Kalaa-es-Senam deposits in Tunis have been leased by the Government to the Dyr Company, of Tebessa, Algeria, the royalty being 1.77 fr. per ton. Operations will not be begun until the railroad from Pont-du-Fahs to Kef and Kalaa-es-Senam has been constructed, which will likely be several years yet.

Algerian phosphate producers report large contracts for delivery up to 1903 at about present quotations. Already the 1901 production is well under contract. We quote Gafsa phosphates below.

The exports of phosphates from Bone, Algeria, in 1900, amounted to 236,225 tons, showing a decrease as compared with the previous year. The distribution by countries was as follows: England, 65,883 tons; France, 62,392 tons; Germany, 49,405 tons; Italy, 24,471 tons; Holland, 8,350 tons; Austria, 6,785 tons; Spain, 5,945 tons; Japan, 5,080 tons; Belgium, 5,050 tons; Russia, 2,200 tons; Roumania, 1,750 tons; Portugal, 560 tons; and Algeria, 354 tons. Of this total the Constantine Company shipped 115,363 tons; Dyr Company, 74,420 tons, and La Societa Francaise, 46,443 tons.

The imports of phosphates into France in 1900 amounted to 278,889 long tons, showing an increase of 41,190 tons, or 15% over 1899. These phosphates have come largely from Algeria, though Florida has furnished much also. The exports from Dunkerque, France, in 1900, were 51,997 tons, against 60,193 tons in 1899 and 59,585 tons in 1898. Much of this has gone to the United Kingdom.

Phosphates.	Per Ton F. o. b.	C. i. f. Un'd Kingdom or European Ports.	
		Unit.	Long ton.
*Fla. hard rock (77@80%)	$6.50@7.00	7¼@8d	$11.31@12.48
*Fla. land pebble (68@73%)	3 85@4.00	6⅛@6¾d	9.10@9.45
*Fla. Peace River (58@63%)	2.50@2.75	6⅛@6¾d	7.80@8.10
†Tenn. rock 78%, export.	3.25@3.50	6¾@7d	10.53@10.92
†Tenn. 78% domestic.	3·00	.....	.....
†Tenn. 75% "	2.75	.....	.....
†Tenn. 72% "	2.50	.....	.....
‡So. Car. rock, crude	2.50@2.75	.....	.....
§So. Car. rock, dried	3.25	6½d	7.80
Algerian, rock (63@70%)	.....	7@7½d	9.24@10.05
Algerian, rock (58@63%)	.....	6¾@7¼d	7.80@8.70
Tunis, Gafsa	.....	6¾@7¼d	7.80@8.70

* Fernandina. † Mt. Pleasant. ‡ At mines. § On vessels, Ashley River.

Liverpool. Feb. 27.

(Special Report of Joseph P. Brunner & Co.)

In some quarters a rather better inquiry is reported, but this is not the general experience and our market for chemicals is still decidedly quiet as regards new business.

For the 12 months ending December 31st, 1900, the United Alkali Company has announced the full preference dividend, carrying forward about £60,000 (including about £37,000 brought forward from the previous year). The balance sheet has not yet been issued to the shareholders. The result of last year's working is considered fairly satisfactory, considering the high prices which had to be paid for fuel and other raw materials.

The Salt Union, Limited, announces a dividend of 1% on the preference shares for the year ending December 31st, 1900, carrying forward about £6,000. For the previous two years no dividend was paid on the preference shares, so that the result of last year's trading shows an improvement, although not so pronounced as shareholders would have preferred.

Soda ash keeps very steady. Quotations vary according to export market, but nearest range for tierces may be called about as follows: Leblanc ash, 48%, £5 15s.@£6; 58%, £6 2s. 6d.@£6 7s. 6d. per ton, net cash. Ammonia ash, 48%, £4 10s.@£4 15s.; 58%, £4 15s.@£5 per ton, net cash. Bags, 5s. per ton under price for tierces. Soda crystals are firmly held at £3 7s. 6d.@£3 10s. per ton, less 5% for barrels, or 7s. less for bags, with special terms for certain favored markets. Caustic soda is in moderate request at late rates, 60%, £9 5s.; 70%, £10 5s.; 74%, £10 15s.; 76% £11@£11 5s. per ton, net cash.

Bleaching powder is rather inactive and nominally quoted at £7@£7 5s. per ton, net cash, for hardwood packages, with special quotations for certain competing markets.

Chlorate of potash is offering at 3⅝d.@3¾d. per lb., net cash, but buyers still hold aloof.

Bicarb. soda is firm at £6 15s. per ton, less 2½% for the finest quality in 1 cwt. kegs, with usual allowances for larger packages; also special quotations for a few favored markets.

Sulphate of ammonia continues quiet, but prices are steady at £11@£11 2s. 6d. per ton, less 2½%, for good gray 24@25% in double bags f. o. b. here.

Nitrate of soda, with more open weather, is in rather better request on spot, and quotations are a shade harder at £8 12s. 6d.@£8 17s. 6d. per ton, less 2½%, for double bags f. o. b. here, as to quality.

MINING STOCKS.

Complete quotations will be found on pages 353 and 354 of mining stocks listed and dealt in at:

Boston.	Salt Lake.	Montreal.
Colo. Springs.	San Francisco.	London.
Denver.	Spokane.	Mexico.
New York.	St. Louis.	Mexico.
Philadelphia.	Toronto.	Paris.

New York. Mar. 15.

Trading is mostly professional, and Wall Street brokers show some nervousness as regards the immediate future of the Standard Oil group of copper stocks, and the Smelter Combination. Reports from Montana that the Governor had vetoed the bill providing for a change of venue in the copper litigation in the State courts, resulted in sending Amalgamated stock down to $97⅞ last Friday. Later, assurances that this legislative action would not affect the company sent the stock to $102 on Monday, but on Tuesday it fell again to $99⅞, recovering to $101 on Wednesday of this week. Anaconda shares were moderately dealt in at $46¾@$46.

American Smelting and Refining shares are unsteady in expectation of further litigation with the dissatisfied stockholders. Although the court denied the application for an injunction to restrain the increase in the company's capital stock in order to acquire the Guggenheim plants, an appeal was taken and the matter is still to be decided. The common stock weakened to $53¼ on Wednesday and the preferred to $93½, but the transactions were only moderately large.

Portland, of Cripple Creek, receded to $2.75,

owing to disappointment in the last annual report, which did not assure an increased dividend as was expected. It should be remembered, however, that the company has had increased expenses in enlarging its output. President Burns is quoted as saying that fully $1,000,000 worth of ore has been opened up on the property since January 1st, and that developments, particularly in the 7th and 9th levels, are most promising. Isabella, although it has declared the usual quarterly dividend of 1c. per share ($22,500), weakened to 73c.

Several lots of Ontario, of Utah, were sold at $8.37½@$8.50, an advance of 25c. since the last sale. Horn Silver is also up, having brought $1.20.

Standard, of California, which has been bid for recently at $3.90, sold at $4.10, while Brunswick continues to sag, and this week went down to 24c.

Auction sales were 100 shares Pennsylvania Mining Company ($5 par value), at $5 for lot; 140 shares Beaver Coal Company ($10 par), at $3 per share; 50 shares Vanderbilt Steel and Iron Company, at $2 for lot; 650 shares Empire State Idaho Mining and Development Company and 100 shares Buffalo Hump Mining Company, $5,500 for lot; 3 shares West Superior Iron and Steel Company, $1 lot; 1,500 shares Brooklyn Mining Company ($1 par), $115 lot.

Listings in the New York Stock Exchange were Pleasant Valley Coal Company, of Utah, $158,000 additional 5% 30-year gold sinking fund first mortgage coupon bonds of 1928 for $1,000 each, Nos. 1,093 to 1,250 inclusive, making the total amount listed to date $1,227,000.

Boston. Mar. 14.

(From Our Special Correspondent.)

We have had an active market this week; not quite as broad as might be, perhaps, but generally inclined to be strong. People are generally inclined to buy coppers for a rise, and more would be done if so many were not afraid of the blind pool tactics.

Butte & Boston sold up to $105 yesterday. The rumors of a consolidation with Boston & Montana are very plentiful, but nothing definite can be ascertained yet, and it is probably the policy to keep the matter uncertain as long as possible.

Trinity showed some large dealings at about $31, but they seem to be largely professional, and it is not easy to tell whether the public is taking hold or not.

There continues to be a good demand for the more promising of the newer Lake stocks, Baltic, Copper Range and Mohawk especially are selling well. Utah Consolidated is selling well.

Outside of the coppers the only special feature has been a demand for United States Mining, and the stock has been bought largely for certain interests.

We have a flood of annual reports from copper companies. Most of them show good results, but some are, as usual, conspicuous by the absence of real information.

Two quicksilver dividends are announced this week, the Napa Consolidated paying 10c. and the New India 20c., both quarterly.

The amended application of the Trinity Copper Company has been accepted, and its stock has been listed on the Boston Stock Exchange. Only 160,000 shares—par value $25—have been listed, the committee refusing to list 80,000 shares which are held in the company's treasury.

Salt Lake City. Mar. 9.

(From Our Special Correspondent.)

Dividends were paid out yesterday, March 8th, to the amount of $109,500. The Silver King contributed its usual $100,000, and the Swansea $5,000, while the shareholders of the Rocco-Homestake received $4,500.

The Grand Central again passed its dividend, pleading the condition of the roads as a bar to passing the ore, of which its bins are now full.

The control of the Alaska Mining Company has passed into the hands of F. L. Osgood and Jacob E. and Herman Bainbridge. The retiring directors and heretofore managing elements are W. H. Webster, of Oneonta, Wis., and J. R. Case, of Chicago. On Thursday 117,000 shares of stock were transferred at a price estimated to be 15c., or $17,555. The gentlemen in control will reorganize the board and promise a vigorous compaign of development, and the former course of dilly-dallying will cease.

San Francisco. Mar. 9.

(From Our Special Correspondent.)

There was nothing new this week, the market simply drifting along on light business. There was not much fall in prices, in spite of some bear talk.

Consolidated California & Virginia sold at $1.60; Ophir, 65c.; Sierra Nevada, 29c.; Gould & Curry, 17c.

On the Producers' Oil Exchange business was very active. Dealings in the higher-priced dividend stocks were good, while large sales were made of the speculative stocks, California Standard, Independence and Oil City being special favorites.

Some prices noted are: Kern River, $17; Peerless, $8.50; Home, $4.15; Sterling, $2.70; Reed Crude, 57c.; California Standard, 50c.; Oil City, 25c.; Petroleum, 16c.

On the new San Francisco Oil Exchange business is fair. The stocks dealt in are much the same as those on the Producers' Exchange. The list is being gradually extended.

London. Feb. 26.

(From Our Special Correspondent.)

The West African section of the mining market, which nowadays monopolizes the attentions of promoters, has a setback this week, owing to the publication of a letter from Mr. Chamberlain objecting to the use of his name in the prospectus of one of the recently issued companies, and incidentally warning investors against the present craze for the gold-field. The company in question is one that I mentioned last week, called the Gold Coast Corporation, Limited. I did not give any details of its object, as it had nothing definite to say in its prospectus and it seemed unlikely that anybody would subscribe for its shares. It has, however, raised up quite a notoriety for itself by saying in the prospectus that two years ago Mr. Chamberlain prophesied that the gold industry in this colony would be a solid, valuable and profitable one. Mr. Chamberlain's letter in reference to this matter points out that the prosperity of the gold mining industry will not be helped by injudicious and indiscriminate gambling in all sorts of wild-cats, or words to that effect. Not only has this particular company received a nasty knock by the publication of this letter, but the whole market also. Mr. Chamberlain is known throughout England as a shrewd business man, even among his political enemies, and it is probable that his letter will deter a great number of innocent people from putting their money into Stock Exchange gambles.

The South African market has not maintained the briskness which was noticeable last week and the week before, and both English and Continental inquiries have ceased. The West Australian section continues quite stagnant, owing to the delays in getting mismanaged mines into shape and sulphide plants to work. The deadlock in the Whitaker Wright group continues. No shareholder knows whether the reconstruction of London & Globe is to be carried through or not, though I hear that owing to the depression of the market the large shareholders consulted by Mr. Wright are not inclined to put up money for the reconstruction at present. In the meantime the British America Corporation deems it inconvenient to issue its report and balance sheet, now due, as the valuation of its assets at present market prices would show a tremendous loss. The special settlements in Rossland Great Westerns and Kootenay Mining have been arranged for toward the end of April, but outsiders who sold shares at a profit are finding it difficult to make brokers stick to their bargains, for by the intricacies of Stock Exchange dealings the professional element can generally invent some way of getting out of bargains when the advantage is on the side of the public and not on their own. Altogether the public are in a pretty bad humor about Whitaker Wright finance generally.

Some hopefulness has been infused into the market for Stratton's Independence this week by the publication of a report from Mr. Hammond to the effect that another flat vein has been discovered averaging 3 oz. to the ton and the quotation of the £1 shares has bounded up from £1⅛ to over £1½. There is a disposition in the market to push the quotation still higher and no doubt the discovery will be used in this way for all it is worth by parties desirous of unloading inconveniently large holdings.

I have from time to time mentioned the Foreign Syndicate, Limited, of London, whose object is to peddle away shares in all sorts of American wildcats. First there were the shares in the International Zinc Company, then the shares of the Arizona Copper Syndicate and the Liquid Air Power and Automobile Company. Now the Syndicate has cropped up again offering the shares of the Tidewater Cannel Coal Company, a Canadian undertaking incorporated under the laws of New Jersey. The idea seems to be to sell enough American shares to provide the expenses necessary for the registration of an English company to acquire the whole concern, a policy which was also proposed in the case of the Liquid Air Company. Of course these propositions are of no commercial importance, though no doubt a certain number of innocent people will be deluded into parting with their money.

Paris. Mar. 3.

(From Our Special Correspondent.)

The feature which attracts most attention in the mining stock market this week has been the general weakness in the metallurgical stocks. It is true that the wave of prosperity in the iron and steel trade has passed, and that we are on the descending grade. On the other hand, it is possible that the fall in fuel and raw materials may enable these companies to make up for the decreased prices of their products.

Uncertainty is emphasized in the Russian group, and prices of these stocks are generally weak. The situation is really uncertain and investors are anxious.

The demand for Transvaal gold stocks, which has been evident recently, is falling off. The reasons for it have not been at all clear, since the situation has not changed and shows no prospect of any change soon.

The preliminary reports give the total coal production of France in the year 1900 at 29,709,553 metric tons. In 1899 the total was 29,398,906 tons, so that the increase last year was only 310,647 tons, or 1.1%. So small a gain in a year when demand was so great and prices so high is not encouraging. Have we reached the point where our coal output cannot be further expanded?

One hears from different quarters the demand that the Government shall insist upon the immediate exploitation of concessions to mine coal which have been granted; or that the Government itself shall open coal mines if the companies will not. Either presents serious difficulties, but there is an urgent demand for some action.

Azote.

DIVIDENDS.

Name of Company	Latest Dividend. Date.	Per share.	Total.	Total to date.
§Am. Agric. Chem ,pf.	Apr. 1	$3.00	$510,000	$2,040,000
†Am. Steel&Wire,com	Apr. 2	1.25	625,000	4,125,000
†Am. Steel & Wire, pf	Apr. 2	1.75	700,000	7,000,000
§Cambria Iron...	April 1	1.00	169,320	846 600
*Center Star, B. C....	Apr. 1	.01	35,000	175,000
*Central Oil, Cal.. ..	Mar. 25	.01	6 628	92,792
*Consolidated, Colo ..	Mar 25	.01	10,000	160,000
Continental Oil, Cal..	April 1	.03	7,200	7,200
Croesus, Cal.....	Mar. 7	.06	12,000	175,300
†Crucible Steel, pf ...	Mar. 30	1.75	426,990	853,982
*Daly West, Utah ...	Mar. 15	.30	45,000	742,500
*Doc'r Jack-Pot Colo	Mar. 25	.01	29,000	87,000
†Elkton Con , Colo....	Mar. 20	.03	75,000	1,054,461
*Gold Coin, Colo.	Mar. 25	.03	30,000	690 000
*Golden Cycle, Colo...	Mar. 18	.05	10,000	408,500
Home, Colo	Mar. 20	.25	12,500	125,0 0
Home Oil, Cal.....	Mar. 20	.10	10,000	230 000
Homestake Oil, Cal...	Mar. 1	.20	2,000	27,000
*Homestake, S. Dak..	Mar 25	.50	105,000	9,718,750
†Isabella, Colo	Mar. 22	.01	22,500	742,500
†Napa Quicksilver ..	Apr. 1	.10	10 000	1,120,000
†National Steel, pf....	Mar. 30	1.75	472,500	3,780,000
†National Tube, pf...	April 1	1.75	699 935	4,899,546
†New Haven I. & S..	Apr. 1	.10	10,000	112,500
†New Idria Quicksil..	Apr. 1	.20	20,000	290,000
*N.Y.&Hond. Rosario	Mar. 16	.10	15,000	1,475,000
*Pacific Coast Borax	Mar. 29	1.00	19,000	819,700
†Penna. Steel, pf ..	Apr. 15	1.75	26,250	183,750
*Producers & Con Oil.	Mar. 1	.10	1 000	57,000
†Republic I. & S. pf..	Apr. 1	1.75	355,371	2,487,596
*Silver King, Utah...	Mar. 11	.66⅔	100,000	3,725,000
†Sloss Sheffield, pf ...	Apr. 1	1.75	117,250	572,250
†St. Joseph Lead.	Mar. 20	.15	37,500	3,347,000
U. S. Marble, Wash..	Mar. 15	.00¼	3,750	3,750
.....	.....	.....	.....	.....
....	.....	.....	.....	.....

*Monthly. †Quarterly. §Semi-Annually.

ASSESSMENTS.

Name of Company.	Location.	No	Delinq.	Sale.	Amt.
Alaska	Utah	...	Mar. 5	.....	.03
Alliance..	Cal..	3	Mar. 18	Apr. 8	.02
Alpha Con.....	Nev .	24	Mar. 11	Apr. 2	.03
Canadian King..	W'sh	...	Mar. 8	.....	.001
Centennial.....	Mich	...	Apr. 12		2.00
Chollar	Nev..	54	Mar. 18	Apr. 9	.10
Diamond Con	Utah	2	Apr. 8	Apr. 25	.04
Eutonia...	Utah	5	Mar. 12	Mar. 28	.00½
Excelsior.....	Utah	...	Feb. 11	Mar. 20	.00½
Gold Hill.....	Cal..	...	Mar 27	.....	.25
Jenny Lind.....	Cal..	...	Mar 27	.....	.01
Larkin.....	Cal..	9	Feb. 25	Mar. 18	.02
Leo	M'nt	...	Mar. 13	Apr. 4	.00¼
Little Chief.....	Utah	6	Mar. 15	Apr. 4	.01
Maple Creek	Cal..	1	Mar. 13	Apr. 3	.10
Mariposa Com'l & Mg.	Cal..	21	Apr. 11	... ..	10.
McKinley	Utah	...	Mar. 18	Apr. 13	.00⅛
Mexican	Nev.	66	Mar. 2	Apr. 15	.15
R. G. W	Utah	...	Mar 27	Apr. 16	.00½
Salt Lake.....	Utah	...	Mar. 2	Mar. 22	.00½
Seg. Belch. & Mides..	Nev..	27	Apr. 3	Apr. 23	.03
Shoebridge Bonanza..	Utah	7	Feb. 25	Mar. 18	.01
Snowstorm.....	Utah	...	Mar. 5	.....	.00½
Sonora..	Cal..	...	Mar. 30	Apr. 12	.02
Spanish Con.....	Cal..	4	Mar. 19	Apr. 8	.05
Tule Belle.....	Cal..	...	Mar. 23	.....	.02
.....	...	...	.....	.....	.....
.....	.....	.....	.....	.....	.....

ANNUAL MEETINGS.

Name of Co.	Locat'n.	Date.	Place of Meeting.
*Alice.....	Wash...	April 15	Spokane, Wash.
Centenial Cop'er	Mich....	april 2	60 State St , Boston.
Columbia Lead..	Mo.....	Apr. 18	St. Louis, Mo.
Hale & Norcross	Nev	Mar. 16	San Francisco, Cal.
Mayflower. ...	Mich....	Mar. 20	60 State St., Boston.
National Salt. ..	.....	Mar. 27	Jersey City, N. J.
National Steel ..	....	Mar. 19	East Orange, N. J.
*Ridge & Valley.	Utah....	Mar. 23	Salt Lake City, Utah.
Sunshine	Utah....	Mar. 30	Salt Lake City, Utah.
Un.C.Land&Mg.	Mich....	Mar. 28	60 State St., Boston.
Washingt'n Cop	Mich....	Mar. 26	60 State St., Boston.
... ...	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....

*Special Meeting.

STOCK QUOTATIONS.

NEW YORK.

NAME OF COMPANY.	Location.	Par val.	Mar. 8. H.	Mar. 8. L.	Mar. 9. H.	Mar. 9. L.	Mar. 11. H.	Mar. 11. L.	Mar. 12. H.	Mar. 12. L.	Mar. 13. H.	Mar. 13. L.	Mar. 14. H.	Mar. 14. L.	Sales
Alamo	Colo.	1	.14	....	....	....	.15	....	.14	....	....	....	....	....	3,000
Alice	Mont.	25	....	....	.40	....	....	....	....	....	....	....	....	....	1,000
Amalgamated c.	Mont.	100	102⅝	97.⅞	101	99.00	102	101	102⅜	99.⅞	101	100⅜	102½	....	126830
Anaconda, c	Mont.	25	47.75	46.38	46.50	46.00	46.75	46.00	46.00	....	46.25	46.00	46.00	....	7,225
Anaconda Gold	Colo.	5	.42	....	....	....	....	....	....	....	....	....	....	....	300
Argentum-Jun.	Colo.	2	....	....	.27	....	.28	....	....	....	....	....	....	....	2,300
Belcher	Nev.	3	....	....	....	....	....	....	....	....	....	....	....	....	....
British Col. Cop.	B. C.	5	20.50	20.25	20.50	20.13	20.50	20.00	20.75	20.25	20.75	20.63	20.75	20.38	....
Brunswick Cons.	Cal.	1	.25	....	.25	....	.25	....	.25	....	.25	.24	....	....	3,100
Chrysolite	Colo.	50	.06	....	....	....	....	....	....	....	....	....	....	....	300
Comstock T.	Nev.	100	....	....	....	....	....	....	....	....	.05½	....	....	....	500
Con. Cal. & Va.	Nev.	2½	1.70	....	1.60	....	....	....	....	....	....	....	....	....	250
Creede & Cr. Cr.	Colo.	1	....	....	....	....	....	....	....	....	....	....	....	....	....
Crescent	Colo.	10	....	....	....	....	.12	....	....	....	....	....	....	....	200
Cripple Cr. Con	Colo.	1	....	....	....	....	....	....	....	....	....	....	....	....	....
Deadwood	S. Dak	25	....	....	.52	....	....	....	....	....	....	....	....	....	50
Golden Fleece	Colo.	1	....	....	....	....	....	....	....	....	....	....	....	....	....
Hale & Norcross	Nev.	8	....	....	....	....	....	....	....	....	....	....	....	....	....
Homestake	S. Dak	100	....	....	....	....	....	....	....	....	....	....	....	....	....
Horn Silver	Utah	20	....	....	....	....	....	....	....	....	1.20	....	....	....	200
Iron Silver	Colo.	20	....	....	....	....	.93	....	....	....	....	....	....	....	300
Isabella	Colo.	1	.70	....	.71	....	....	....	.73	....	....	....	....	....	600
Jack Pot	Colo.	1	....	....	....	....	....	....	....	....	....	....	....	....	....
Leadville	Colo.	10	....	....	....	....	....	....	.06	....	.06	....	....	....	800
Little Chief	Colo.	1	.15	....	....	....	.15	....	....	....	....	....	....	....	700
Mollie Gibson	Colo.	5	....	....	....	....	.23	....	.26	....	.25	....	....	....	1,000
Moon-Anchor	Colo.	1	....	....	....	....	....	....	....	....	.30	....	....	....	100
Ontario	Utah	100	8.25	....	8.25	....	8.50	....	8.50	....	8.88	....	....	....	570
Ophir	Nev.	8	....	....	....	....	....	....	....	....	.70	....	....	....	300
Pharmacist	Colo.	1	.18	....	.14	.13	.14	....	.14	....	....	....	....	....	12,300
Phoenix	Ariz.	1	....	....	....	....	.10	....	....	....	....	....	....	....	10
Plymouth	Cal.	10	....	....	....	....	.10	....	....	....	....	....	....	....	300
Portland	Colo.	1	....	....	2.50	....	2.75	....	....	....	2.85	....	....	....	700
Potosi	Nev.	8	....	....	....	....	....	....	....	....	....	....	....	....	....
Sierra Nevada	Nev.	8	....	....	....	....	....	....	....	....	.90	....	....	....	200
Standard Conn	Cal.	10	....	....	....	....	....	....	4.10	....	....	....	....	....	50
Tenn. Copper	Tenn.	25	18.50	18.00	18.50	18.00	19.00	18.50	19.00	18.00	18.50	17.75	18.50	17.50	....
Union Copper	N. C.	10	4⅛	3⅞	4	3⅞	4	3⅞	4	3¾	4	3¾	4⅛	4	....
Work	....	....	.20	....	....	....	.20	....	....	....	....	....	....	....	14,000

COAL AND INDUSTRIAL STOCKS.

Am. Sm. & Ref.	$100	54⅞	54⅛	54⅝	53⅞	58	54⅞	57¼	56	56⅛	53¼	55	....	76,100
" " pf	100	94¾	93	94	....	96¼	94	95¾	95	93	94½	....	....	15,987
Am.S. & W. Con	100	39⅛	38¾	38¾	38½	39⅝	39	39⅜	38¾	39¼	38⅞	....	....	20,925
" " " pf'r'n	100	96	....	....	....	97.⅝	96	97¼	97	97½	97¼	97⅜	....	5,273
Col. Fuel & I.	Colo.	100	45⅞	45	45	....	45¾	45⅛	45⅛	45	45⅛	45	44⅜	....	2,400
Col. & H. C.& I.	"	100	16	15¼	15⅛	....	15⅛	15¼	15⅛	....	15⅝	15⅜	15¾	....	2,400
Federal Steel	....	100	44	43¾	43¾	43¼	43⅞	43⅛	43⅝	43⅛	43⅞	43⅛	43	....	12,795
" " pf	....	100	89¼	89	89⅛	88⅝	89⅜	88⅝	89½	89	89⅞	89¼	89½	....	20,532
Fleming'n C.&C	W.Va	100	15	9	15	9	15	9	15	9	15	9	19	6	....
*Mong. R. Coal	Pa.	100	10¾	10⅝	10¾	10⅝	10⅞	10¾	11	10⅞	....	....	....	....	520
" " pf	"	100	43½	44	43⅛	43⅜	43⅜	....	43½	43⅜	....	....	....	....	82
National Lead	"	100	15¼	....	....	....	15¼	15⅛	15⅛	15¼	15⅛	....	15¾	....	1 400
" " pf	"	100	86½	....	....	....	86⅝	....	87⅛	....	....	....	....	....	800
National Salt	....	100	43	42⅛	43	42⅛	42⅝	42¼	42⅝	....	43⅝	42¾	44⅝	....	6,000
" " pf	....	100	....	....	....	....	....	....	76¼	....	....	....	75	....	218
*Pittsburg Coal	Pa.	100	27⅛	....	27⅞	27¼	27⅝	....	27⅞	27⅛	....	....	....	....	1,580
* " " pf	"	100	88½	88⅜	....	....	88½	88⅜	89	88⅞	....	....	....	....	894
Republic I. & S.	....	100	17¾	16⅞	17	16¾	17¼	16⅝	17⅛	16⅞	17	16⅛	16⅝	....	13,225
" " pf	....	100	68¾	67	67¾	67	67½	67	67¼	67	67	66¼	66½	....	14,254
Sloss-Shef	....	100	....	....	....	....	....	....	24	23	24¾	24½	25½	....	1,200
" " pf	....	100	71	....	....	....	71	....	72	71¼	....	....	72	....	600
Stan. Oil	....	100	800	793	800	793	800	797	795	793	796	790	799	788	....
Tenn. C. I.&R.R	....	100	55¾	53⅞	54¼	53¾	55	53⅞	54⅞	53¼	54	53	54¼	....	22,925
Va. Coal & C.	Va.	100	5	3	5	3	5	2	5	3	5	3	....	....	....

* On Pittsburg, Pa. Exchange. Total sales, 387,611.

SAN FRANCISCO, CAL.

NAME OF COMPANY.	Location.	Par value.	Mar. 7.	Mar. 8.	Mar. 9.	Mar. 11.	Mar. 12.	Mar. 13.
Belcher	Nev.	$3.00	.10	.11	.11	.11	.11	.10
Best & Belcher	"	3.00	.20	.19	.20	.19	.18	.17
Caledonia	"	3.00	.62	.66	.63	.73	.70	.70
Challenge Con	"	3.00	.16	.16	.17	.17	.16	.15
Chollar	"	3.00	.06	.06	.05	.05	.05	.04
Confidence	"	3.00	.70	.71	.70	.70	.70	.72
Con. California & Virginia	"	2.50	1.60	1.60	1.60	1.50	1.60	1.55
Crown Point	"	3.00	.10	.11	.11	.11	.10	.10
Gould & Curry	"	3.00	.17	.18	.17	.17	.17	.16
Hale & Norcross	"	3.00	.13	.14	.14	.14	.14	.15
Justice	"	2.00	.02	.02	.03	.04	.03	.03
Mexican	"	3.00	.17	.18	.19	.17	.17	.17
Occidental Con	"	3.00	.03	.03	.03	.03	.03	.04
Ophir	"	3.00	.64	.67	.67	.65	.66	.65
Potosi	"	3.00	.15	.14	.14	.15	.14	.13
Savage	"	2.50	.10	.09	.09	.08	.09	.10
Sierra Nevada	"	3.00	.28	.29	.29	.30	.29	.29
Standard Con	Cal.	10.00	3.80	3.90	3.90	3.90	3.90	3.90
Union Con	Nev.	2.50	.19	.19	.19	.20	.18	.18
Utah Con	"	1.00	.04	.04	.04	.04	.04	.04
Yellow Jacket	"	3.00	.18	.19	.19	.19	.18	.18

CALIFORNIA OIL STOCKS.*

Name of Company.	No. of shares.	Par Val.	Feb. 25. H.	Feb. 25. L.	Feb. 26. H.	Feb. 26. L.	Feb. 27. H.	Feb. 27. L.	Feb 28. H.	Feb 28. L.	Mar. 1. H.	Mar. 1. L.	Mar. 2. H.	Mar. 2. L.	Sales
Blue Goose	5,000	$100	5.00	4.50	5.00	4.50	4.50	3.00	4.50	....	4.25	....	....	....	890
Buckhorn	20,000	10.00	3.50	2.75	3.50	....	3.50	2.75	2.75	2.00	2.75	....	3.50	....	....
Cal. Standard	500,000	1.00	.39	.37	.39	.38	.41	.39	.49	.44	.53	.50	.54	.52	21,800
Caribou	100,000	1.00	.70	.61	.70	.65	.90	.85	.85	.65	.75	.65	.80	.75	1,900
El Dorado	100,000	1.00	1.80	1.75	1.75	1.50	1.75	1.50	2.00	1.50	1.85	1.60	1.95	1.60	50
Four	800,000	1.00	.60	.59	.60	.59	.60	.58	.60	.59	.60	.52	.59	.53	1,528
Hanford	2,000	10.00	105	100	102½	100	105	100	106	102½	105	102	104	....	32
Hanf'd F. & K.	150,000	1.00	.23	.22	.23	.20	.21	.19	.18	....	.18	....	.18	....	1,700
Home	100,000	10.00	4.50	4.20	4.80	4.25	4.80	4.05	4.25	4.00	4.25	4.10	4.25	4.10	535
Homestake	10,000	10.00	10.50	....	10.50	10.00	10.00	9.75	10.00	....	9.75	....	10.00	....	....
Independence	600,000	1.00	.18	.16	.17	.16	.18	.16	.19	.17	.20	.19	.21	.19	2,70
Kern	100,000	1.00	10.75	13.00	10.75	10.00	10.00	9.13	9.75	9.00	9.88	9.00	9.88	9.50	350
Kern River	20,000	5.00	....	....	18.00	....	20.00	18.25	18.00	....	17.50	....	17.25	....	....
McKittrick	60,000	1.00	.82	.80	.81	.80	.85	.82	.85	....	.86	.85	.83	....	....
Mo'arch of Ari	500,000	1.00	.69	.66	.70	.65	.68	.60	.67	.52	.60	.58	.63	.62	4,020
Monte Cristo	500,000	1.00	2.50	2.48	2.55	2.45	2.50	2.35	2.50	2.15	2.45	2.20	2.50	2.40	500
Oil City Petrol	5,000	100.	.32	.29	.30	.28	.30	.27	.29	.26	.29	.26	.30	.28	5,000
Petrol, Center	500,000	1.00	.17	.15	.16	.15	.15	.14	.16	.15	.16	.15	.16	.15	25,761
Queen Esther	100,000	1.00	.25	....	.25	....	.15	....	....	....	....	....	....	....	....
San Joaquin	100,000	1.00	12.25	11.88	12.25	11.50	12.25	11.50	12.00	11.38	12.00	11.30	12.00	11.38	1,100
Sterling	250,000	1.00	3.10	3.00	3.15	3.10	3.00	2.90	3.00	2.90	2.90	2.80	2.95	2.80	400
Sunset (Orig.)	100,000	5.00	.40	.37	.40	.37	.37	....	.40	.37	.39	....	.39	.37	100
Twenty-eight	60,000	10.00	2.00	1.95	1.80	1.60	1.95	1.70	1.95	1.70	2.00	1.75	1.75	....	300
Yukon	100,000	2.50	.50	....	.50	....	.40	....	.48	.40	.40	.33	....	....	525

* Producers' Oil Exchange. San Francisco. Total sales. 68,531 shares.

ST. LOUIS, MO.*

NAME.	Location.	Share capital.	Par val.	Feb. 26. Bid.	Feb. 26. Ask.	NAME.	Location	Share capital.	Par val.	Mar. 12. Bid.	Mar. 12. Ask.
Am.-Nettie	Colo.	800,000	$10	$1.10	$1.22	Doe Run Lead	Mo	10,000	$100	125.00	$191.00
Catherine Lead.	Mo	30,000	10	6.00	6.50	Granite Bimetallic	Mt	1000,000	10	2.32	2.45
Central Lead.	Mo	10,000	100	125.00	131.00	Kan. & Tex. Coal	Mo	25,000	100	50.00	53.00
Columbia Lead.	Mo	50,000	10	14.00	14.50	Renault Lead	Mo	30,000	10	11.00	12.00
Con. Coal	Ill.	50,000	100	14.00	14.50	St. Joe Lead	Mo	900.000	10	14.00	14.50

* From our special correspondent.

BOSTON, MASS.†

NAME OF COMPANY.	Par val.	Shares issued.	Mar. 7. H.	Mar. 7. L.	Mar. 8. H.	Mar. 8. L.	Mar. 9. H.	Mar. 9. L.	Mar. 11. H.	Mar. 11. L.	Mar. 12. H.	Mar. 12. L.	Mar. 13. H.	Mar. 13. L.	Sales.
Adventure Con.	$25	100,000	13.00	12.63	12.75	12.50	12.50	....	13.00	13.50	13.00	....	13.38	13.00	1,030
Allouez	25	80,000	3.50	....	3.38	....	....	....	....	....	3.50	3.00	3.00	....	1,050
Amal. Copper	100	750,000	101	99.38	102¼	99.50	100⅝	99.00	102	100¼	101¾	100	101¼	100¼	31,583
Am. Z. L. & Sm.	25	60,000	9.00	8.50	....	....	....	....	....	....	....	....	....	....	120
Anaconda	25	1200,000	46.88	....	....	....	46.00	....	....	....	....	....	....	....	40
Arcadian, c	25	150,000	21.50	21.00	22.00	20.25	21.00	20.50	21.00	20.00	21.00	20.50	21.00	20.50	2,219
Arnold	25	60,000	5.25	5.00	5.25	5.13	4.88	....	5.00	4.75	5.00	....	4.50	....	1,402
Atlantic, c	25	40,000	34.00	33.75	33.50	....	32.50	....	33.50	33.25	33.25	33.00	33.00	32.63	975
Baltic, c	25	100,000	44.50	39.50	40.50	39.00	....	....	40.00	39.00	39.00	....	39.00	....	1,191
Bingham, c. g	10	190,000	21.63	21.50	21.50	21.25	21.25	20.75	21.50	21.00	22.00	21.00	22.00	21.00	7 716
Bonanza Dev.	10	300,000	1.50	1.25	1.56	1.50	1.64	1.50	1.50	....	1.48	1.25	....	....	6,594
Boston	10	100,000	7.50	....	7.00	....	7.25	7.13	....	....	....	....	....	....	205
Boston & Mont.	25	150,000	364	353	364	353	360	355	360	353	360	355	355	350	2,291
British Columbia	5	200,000	21.63	21.00	20.88	20.75	20.50	....	....	....	20.25	....	20.75	20.50	1,393
Butte & Bost., c.	10	200,000	99.50	97.00	100	95.75	98.50	97.00	101¾	98.50	104	101¼	106	102¾	20,283
Cal. & Hecla, c.	25	100,000	855	....	850	....	852	850	855	850	855	....	855	....	65
Centennial, c	25	90,000	26.25	25.50	26.00	25.00	25.00	....	25.00	....	25.50	25.00	24.63	....	8,800
Cent'l-Eureka	25	100,000	28.00	27.50	27.75	....	28.00	27.75	28.00	....	28.50	28.00	28.50	28.25	1,236
Central Oil	25	60,050	12.00	....	12.00	....	....	....	....	....	12.00	....	....	....	160
Cochiti, g	10	175,000	9.75	9.00	9.00	8.75	....	....	9.00	....	8.88	....	9.00	....	1,215
Copper Range	25	100,000	49.00	43.00	....	....	43.00	....	48.00	47.00	47.00	46.00	45.00	44.00	3,631
Daly-West	20	150,000	35.00	....	35.00	....	....	....	....	....	....	....	35.00	....	325
Dominion Coal	100	150,000	38.75	37.75	38.50	....	38.00	....	40.25	39.00	40.00	38.50	40.00	39.75	5,076
do, pref.	100	80,000	....	....	....	....	....	....	110¾	....	110¼	....	110¼	110¾	146
Elm River	12	100,000	6.63	6.00	6.25	6.06	6.25	....	6.25	6.00	....	....	6.00	5.25	2,905
Franklin, c	25	100,000	23.50	22.75	24.00	22.25	22.50	22.00	24.25	22.25	23.00	22.50	23.00	22.50	8,207
Humboldt	25	40,000	....	....	....	....	.50	....	....	....	....	....	....	....	50
I. Royal Con., c	25	100,000	43.75	42.25	43.00	42.00	42.25	42.00	48.00	42.25	43.50	42.50	43.25	42.50	5,373
Mass Con	25	100,000	14.25	13.50	....	....	13.63	13.50	13.75	13.50	13.00	....	13.00	....	1,070
Mayflower	25	100,000	8.50	....	8.50	8.25	....	....	8.25	....	8.50	8.00	8.50	8.00	415
Melones	10	157,577	....	....	....	....	....	....	....	....	....	....	....	....	....
Merced	15	100,000	....	....	....	....	....	....	....	....	....	....	....	....	....
Michigan	25	100,000	7.25	7.00	....	....	7.25	7.00	7.00	....	7.00	....	7.00	....	1,270
Mohawk, c	25	100,000	30.00	28.50	29.13	28.50	28.50	28.00	29.00	27.50	28.00	....	28.19	28.00	3,404
Mont. C. & C	25	200,000	6.00	....	....	....	....	....	....	....	....	....	....	....	50
N.E. Gas & Coke	100	160,000	12.25	....	12.25	....	12.13	12.00	12.25	12.00	12.25	....	12.50	12.00	1,800
N. A. G. Dreg	10	100,000	1.00	....	....	....	....	....	.75	.50	.50	....	.50	....	2,090
Old Colony	25	100,000	....	....	4.75	4.63	....	....	....	....	4.88	....	....	....	205
Old Dominion, c	25	150,000	38.00	37.50	38.25	37.00	37.25	37.00	37.50	37.00	37.50	36.75	37.50	37.00	3,106
Osceola, c	25	98,000	93.00	90.00	93.00	91.00	91.00	90.50	91.75	91.00	91.50	90.00	88.50	87.00	4,653
Parrot, s c	10	229,850	53.00	52.00	53.50	52.25	52.75	52.00	53.25	52.00	53.50	53.00	52.88	51.75	4,257
Phoenix Con	25	100,000	5.00	....	5.00	4.88	....	....	....	....	....	....	....	....	120
Quincy, c	25	100,000	175	170	177½	170	....	....	175	....	176	....	175½	....	140
Rhode Island	25	100,000	7.50	7.00	7.50	7.00	7.50	....	7.38	7.00	7.25	7.00	7.00	....	3,130
Santa Fe, g. c	10	250,000	8.00	7.25	7.75	....	....	....	7.50	7.25	7.75	7.50	8.00	7.50	1,617
Santa Ysabel	5	130,000	....	....	....	....	....	....	....	....	....	....	....	....	....
Tamarack, c	25	60,000	348	345	347	....	347	....	340	339	....	....	338	336	175
Tecumseh	25	80,000	2.75	....	2.75	2.50	2.50	....	2.50	....	2.00	....	2.00	....	1,280
Trimountain	25	100,000	28.00	27.13	27.75	27.50	27.38	27.00	28.00	27.00	27.25	27.00	27.50	27.00	3,633
Trinity	25	160,000	....	....	29.25	28.00	29.00	28.25	30.00	29.38	30.13	29.25	31.50	29.88	31,936
Union C. L.	25	80 000	4.63	4.00	4.50	4.00	4.25	4.00	4.25	....	4.50	....	4.25	4.00	580
UnitedStatesMg.	25	250,000	14.00	13.50	14.00	13.50	14.00	13.50	13.88	13.50	14.25	13.75	14.50	14.00	12,961
U. S. Oil	25	100,000	....	....	14.00	12.25	....	....	13.00	12.75	13.00	....	13.00	....	548
Utah Con., g. c.	5	900,000	35.50	35.00	35.75	34.50	35.00	34.50	35.50	35.00	36.00	35.38	35.25	35.00	4,668
Victoria	25	100,000	5.00	4.75	4.75	....	....	....	4.75	....	4.88	4.50	4.75	4.50	550
Washington	25	60,000	....	....	.50	....	.55	....	....	....	....	....	....	....	225
Winona, c	25	100,000	7.50	6.25	7.00	6.75	7.00	6.75	7.38	6.50	6.75	6.63	6.75	6.50	3,143
Wolverine c	25	60,000	54.00	53.25	53.50	53.25	53.50	....	53.50	....	54.00	53.13	53.50	53.00	1,005
Wyandot	25	100,000	2.75	2.50	2 63	....	2.75	....	2.50	....	2.50	2.38	....	....	820

† Official quotations Boston Stock Exchange. Total sales, 198,989 shares.

PHILADELPHIA, PA.§

NAME OF COMPANY.	L'cation.	Par Val.	Mar. 7. H.	Mar. 7. L.	Mar. 8. H.	Mar. 8. L.	Mar. 9. H.	Mar. 9. L.	Mar. 11. H.	Mar. 11. L.	Mar. 12. H.	Mar. 12. L.	Mar. 13. H.	Mar. 13. L.	Sales
Am. Alkali	....	$50	2.00	....	....	....	....	....	1.88	....	....	....	....	....	1,300
Am. Cement	....	10	7.50	....	7.13	7.00	....	....	....	....	....	....	7.00	....	1,300
Bethlehem Iron	Pa.	50	....	....	61.00	....	62.00	....	61.00	....	62.00	61.75	62.00	....	611
Bethlehem Steel	"	50	19.50	19.00	19.13	....	....	....	19.00	....	....	....	18.75	....	1,244
Cambria Iron	"	50	....	....	46.50	....	46.75	....	47.00	....	46.75	....	46.75	....	183
†Cambria Steel	"	50	17.75	....	17.88	....	17.75	17.50	....	....	....	....	17.75	....	2,147
Susq. I. & S	"	10	2.25	....	2.38	2.25	....	....	....	....	2.25	....	2.25	2.00	690
United Gas I	"	50	125	124⅜	124⅞	....	....	....	124⅜	....	125	124⅛	124⅛	124¼	1,085

Total shares sold, 8,720. § Reported by Townsend, Whelen & Co., 309 Walnut St. Philadelphia.

SALT LAKE CITY, UTAH. Mar. 9

STOCKS.	Shares.	Par val.	Bid.	Asked.	STOCKS.	Shares.	Par val.	Bid.	Asked.
Ajax	300,000	$10	$1.03½	$1.08⅞	Horn Silver	400,000	$25	$1.05	....
Albion	....	....	.30	.45	Joe Bowers	400,000	1	.00½	....
Alice	400,000	25	.30	....	Lower Mammoth	150,000	1	3.95	$3.99
Anchor	....	....	2.30	2.40	Mammoth	400,000	5	2.20	2.22¾
Bullion-Beck & Ch.	100,000	10	2.90	....	May Day	400,000	¾	.38	.48¾
Centennial Eureka	200,000	25	27.00	29.00	Northern Light	400,000	5	.07	.07¾
Cons. Mercur	1,000,000	5	3.05	3.18	Ontario	150,000	100	8.25	8.90
Dalton	500,000	5	....	.01	Rocco-H'st'k-Nev	....	....	1.92	....
Daisy	500,000	3	.10⅝	.11⅜	Sacramento	1,000,000	5	.37½	....
Dalton & Lark	2,500,000	1	.04	.06	Showers Cons	400,000	5	....	.10
Daly	150,000	20	2.00	2.13	Silver King	150,000	20	....	....
Daly-West	150,000	20	34.80	35.00	Silver Shield	....	....	.12½	.12⅞
Dexter	200,000	5	1.00	1.13¾	Star Consolidated	500,000	1	.69⅛	....
Eagle & Blue Bell	250,000	1	.78	.84	Sunbeam	250,000	1	.32	.40
Four Aces	250,000	1	....	....	Swansea	100,000	5	3.36½	3.90
Galena	100,000	10	.05	.15	South Swansea	150,000	1	1.25½	1.30
Golden Eagle	250,000	1	.01¾	.02¾	Utah	100,000	1	.60	.75
Grand Central	250,000	1	6.40	6.45	Valeo	200,000	10	.27½	30
Homestake	400,000	1	....	....	Yankee Consol'd	250,000	0.10	.13	.13¾

TORONTO, ONT.

NAME OF COMPANY.	Par val.	Mar. 2. B.	Mar. 2. A.	Mar. 4. B.	Mar. 4. A.	Mar. 5. B.	Mar. 5. A.	Mar. 6. B.	Mar. 6. A.	Mar. 7. B.	Mar. 7. A.	Mar. 8. B.	Mar. 8. A.	Sales.
Ontario:														
Golden Star	1	.02⅛	.02⅜	.02¼	.02⅜	....	....	.02¼	.02⅜	.02¼	.02½	.02⅜	.02½	9,500
Ham Reef	1	....	....	.01¾	....	....	....	....	....	.01⅞	....	....	....	400
Olive	1	....	....	....	....	....	....	....	....	....	....	....	....	....
British Col.:														
Caribou M'k	1	.33	.36	.35	.38	....	....	.

STOCK QUOTATIONS.

COLORADO SPRINGS, COLO.‡

Name of Company.	Par val.	Mar. 4. B.	Mar. 4. A.	Mar. 5. B.	Mar. 5. A.	Mar. 6. B.	Mar. 6. A.	Mar. 7. B.	Mar. 7. A.	Mar. 8. B.	Mar. 8. A.	Mar. 9. B.	Mar. 9. A.	Sales.
Acacia	$1	.17	.18	.16	.16½	.19¾	.17	.17¼	.18	.16¼	.16½	.16¾	.17½	46,300
Alamo	1	.13½	.14	.13½	.14	.13¾	.13½	.13¼	.14	.13¼	.14	.13½	.14½	8,000
Am. Con	1	.05⅞			.06¾	.05¾	.06⅜	.05¾	.06¼	.05⅞	.06¼	.05⅞	.06	2,000
Anaconda	1	.44	.46½	.44¾	.47	.44	.45	.45	.46	.44	.45	.44	.47	5,500
Anchor	1	.02⅜	.03¼	.02¼	.03¼	.02¼	.03¼	.02¼	.02⅞			.02⅛		1,000
Anchoria L	1	.60								.60		.60		
Antelope	1		.02¼	.02	.02⅛		.02⅜	.02	.02⅛	.02	.02⅛		.02⅛	2,000
Aola	1	.04¼	.05	.04	.04⅜	.04⅜	.04¾	.04¼	.04½	.04¼	.04¾	.04¼	.04⅜	5,000
Arcadian	1	.02⅛	.03		.04	.04			.03½	.02⅛	.03	.02⅛	.03	
Arg'ntum J	1	.28		.28⅛		.27½	.28	.27⅜	.29	.27½	.29	.27		5,967
Banner	1	.03½	.03⅝	.03	.03⅝	.03¼		.03⅜	.03½	.03¼		.03	.03⅜	5,500
Battle Mt.C	1		.25	.24	.24½	.24½	.24½	.25¾	.26	.24½	.25⅜	.25		10,000
Ben Hur	1	.09⅞		.10¼	.10⅜	.11	.11¼	.10⅜	.10⅝	.10¼	.10¾	.10	.10¼	93,500
Black Bell	1	.12	.13	.11⅞	.13	.11¼	.12	.11⅜	.12⅜	.11⅜	.12	.11¼	.12½	10,000
Blue Bell	1	.18¼	.18⅞	.18¾	.19⅜	.19	.19⅝	.19¼	.19⅞	.19	.19½	.19	.19⅝	13,000
Bob Lee	1	.05⅞	.06	.05⅝		.05½	.05¾	.05½	.06¼	.05⅝	.05⅞	.04⅜	.04½	9,000
Buckhorn	1	.04⅜	.04⅞	.04½	.04¾	.04⅜	.04⅝	.04¼	.04⅝	.04⅜	.04⅝	.04⅜	.04½	4,000
Cadillac	1	.02¼	.02¾	.02¼		.02½	.02⅜	.02½	.02¾	.02½	.02⅞	.02⅛	.02⅜	6,000
Central C'n	1	.05¼	.05¾	.05¼	.05¾	.05½	.05⅞	.05½	.06	.05½	.06	.05¾	.06	1,000
Champion	1	.05¼	.05¾	.05	.06	.05¼	.06	.05¼	.06¼	.05¼	.06¾		.06	1,000
Chicolo	1	.03⅛	.03¼	.03	.03⅜	.03	.03⅛	.02⅞	.03⅛	.02⅞	.03	.02¾	.03	8,000
C. K. & N	1	.02⅛	.03	.02⅜	.03			.02⅝	.03	.02⅞	.03	.02⅝	.03	43,000
C. C. Col'bia	1	.15½	.16	.15	.15⅞	.15¾	.15½	.15¾	.15⅞	.15½	.1o	.15¼	.15¾	25,000
C. C. G. Ext	1	.12	.13½		.13⅝		.14		.14		.14		.13½	1,000
C. C. & Man	1	.08¼	.08¾	.05½		.09	.09¼	.09⅜		.09	.03¼	.09	.09⅜	80,000
Copper Mt.	1	.03⅜	.03¾	.03	.03⅛	.03	.03⅜	.03	.03¼	.03	.03¾	.03	.03¼	3 000
Creede& CC	1	.10	.14	.08	.12									
C. C. Con	1	.11	.12	.11¼	.11¾	.11⅜	.12	.11¾	.12	.11⅞	.12	.11¾	.12	10,000
Dante	1	.07⅛	.08	.07½	.08	.07⅜	.08	.08	.08¼	.08⅛	.08⅜	.08⅛	.08½	27,000
Des Moines	1	.05	.07	.05		.05		.05		.05	.07	.04⅝	.05⅛	3,000
Eclipse	1	.08	.08¼	.07½	.09	.07⅜	.09	.08	.08⅛	.08¼	.08⅜	.08⅛	.09	16,000
Elkton Con	1	1.61	1.62	1.62½		1.64		1.65½	1.66¾	1.64½		1.66	1 66¼	24,545
El Paso G	1	.44½		.44		.44½	.46	.44	.44⅞	.44	.45	.44	.45	9,422
Enterprise	1		.16		.15¾		.13⅜	.15¾		.14	.15¾	.14		
F. Rawlings	1	.20	.21	.20	.21	.20		.21	.25	.20		.20		5,000
Findley	1	.12½	.13	.12⅜	.13⅜	.11¾	.12	.11¼	.12¾	.11¾	.12		.12½	13,000
Garf. Conn.	1		.04¼				.08¼		.08¼		.08¼		.04¼	
Golden Fl	1		.30		.31		.30		.30		.30		.30	
Gold Hill	1	.02⅜	.02½	.02⅜	.02½	.02⅜	.02⅝		.02½	.02	.02¾	.02	.02⅝	5,000
Gold Sov'n	1	.06¾	.07	.07	.07½	.07½	.07¾	.08½	.08⅝	.08	.08½	.07¾	.07½	40,000
Hayden	1		.01⅞	.01⅜	.01⅞	.01⅜	.02	.01½			.01⅞		.01⅞	3,000
Humboldt	1	.03	.03½	.03	.03¾	.03	.03⅜	.03	.03½	.03		.03	.03½	12,000
Ida May	1		.24	.22	.23⅝	.22	.24		.23		.23	.21	.22	1,000
Ing. Con	⅕	.18½	.19	.18	.12⅞	.19½	.19½	.19½	.19	.19	.19½	.19	.20	3.000
Ironclad	1	.06¼	.06⅜	.06	.06½	.06	.06⅜	.06	.06¼	.05	.06¼	.06	.06¼	7,000
Isabella	1	.70		.71½	.73⅝	.74½	.76	.70	.72	.71	.73	.70¾	.71½	19,550
Jack Pot	1	.53	.55	.52½	.55	.51	.55	.54½	.55½	.53½	.58	.55	.57	6,700
Josephine	1	.01¼	.01⅞	.01¼		.01¼		.01½		.01½		.01	.01⅝	4,000
Key West	1		.02⅜		.03⅜		.02¾		.02¾		.02½		.02½	5,000
Lexington	1	.9½	.09⅝	.09¾	.10	.09½	.09¾	.09½	.09¾	.09½	.09⅝	.09½	.10	17,000
Magnet R.	1	.02¾	.03	.02¾	.02⅞	.02½	.02⅝	.02½	.02⅝	.02½	.02⅝	.02½	.02¾	13,000
Margaret	1	.02¾	.03	.02½	.03	.02¾	.02¾	.02½	.02⅜	.02½	.02¾	.02½	.02¾	3,000
Margery	1	.02⅜		.02⅜	.03¼	.02½	.02¾	.02½	.03¼	.02½	.03¼	.02½	.02¾	1,000
Matoa	1	.16		.16		.16		.16		.16		.16	.04	8,000
Midway	1	.04	.04½	.03⅞	.04½	.04¼	.04	.04¼	.03⅞	.04½			.04	11,000
M. J. T	1	.03½		.03½	.03½	.03	.03½	.03	.03¾	.03½	.03¾	.03¼	.03½	7,000
Mobile	1				.03½		.04		.04		.03½		.03¾	
Moll.Dwyer	1	.05	.05¼	.05½	.05¾	.05	.05¾	.05¼	.05⅝	.05¼	.05¾	.05¼	.05⅝	28,000
Mollie Gib.	1	.24½	.25	.25	.28	.31	.31½		.30	.29	.29½	.28½	.29½	47 365
Monarch	1	.07¾	.08	.07¾	.08		.07¾	.07¾	.07¾	.07¾	.07¾		.07½	17,000
Montreal	1	.04	.05		.05	.04		.04	.05	.04	.05	.04¾	.05	
Moon-A'c'r	1	.33	.34	.33	.33⅞	.30	.32	.32½	.31	.33	.30	.32	.10,000	
Morning S	1	.03¾	.04	.03¾	.03½	.03¾	.04	.03¾	.03⅝	.03⅞	.03⅝	.04	1,300	
Mtn.Beauty	1	.06½	.07	.06½	.07	.06½	.06⅞	.06¾	.07	.06¾	.07	.06½	.07	8,000
Mt. Rossa	1		.43	.40	.48			.48	.40	.48	.40	.48	.48	500
National	1	.08½	.09	.08½	.09			.08¾	.09¾	.03¼	.08½	.07¾	.08½	16,000
Nellie V	1	.06	.06¼	.06¼	.06½	.06	.06¾	.05¾	.06¼	.05½	.06	.05¾	.06	6,250
New Haven	1	.09¾	.10⅛	.09⅜	.09¾	.09¾	.09⅞	.09¾	.09⅝	.09¾	.09⅞	.09½	.09⅞	48,000
Olive B'nch	1	.03⅜	.04¼	.03⅜	.04¼	.03⅜	.03⅝	.03¾	.04	.03⅜	.03⅝	.03	.03⅝	8,000
Ophir	1		.34	.32	.34	.30	.34	.30	.34	.34		.30	.34	2,000
Oriole	1	.03¼	.03⅝	.03¼	.03⅜	.03¼	.03½	.03¼	.03⅜	.02⅞	.03⅛	.03	.03⅜	22,000
Orphan	1	.15	.17	.16	.17	.16½	.17	.16	.17	.16⅝	.17		.17	4,000
Pelican	1	.01¾	.02½	.01¾	.02½	.01¾	.02	.01		.01½	.02		.02	5,000
Pharmacist	1	.11⅞	.12	.11⅞	.12	.13¾	.13	.13½	.13¼	.13¾	.13⅝	.13¾	.13¾	225,487
Pilgrim	1	.09⅞	.10¼	.09½	.10	.09½	.10					.09¼		
Pinnacle	1	.15	.12½		.19		.19		.13½		.13¾	.17	.18½	5,000
Portland	1	2.95	3.00	2.97	2.99		2.38		2.85	2.55	2.60	2.88		28,700
Prince Alb.	1	.05	.05½	.05	.05½	.05	.05½	.05	.05¼	.05	.05½	.04¾	.05⅛	11,000
Princess	1	.05	.05¼	.04¾		.05	.04¾				.05¼	.06¾	.07	8,000
Progress	1	.06¾	.07	.06¾	.07	.07¼	.07⅜	.07⅛	.07¾	.07	.07⅜			61,000
Pythias	1	.04¾	.04⅝	.04½	.05	.04½	.05	.04¾	.05½	.04¼	.05	.04½	.04⅝	6,000
Republic	1		.08		.07	.08	.08¼	.08	.08⅜	.07	.07⅜	.07	.08¼	2,000
Rob't Burns	1	.04½	.04¾	.04¾	.05¼	.04¾	.04¾	.04¾	.05	.04¼	.04¾		.04¾	6,000
Rose Maud	1	.06½	.07	.06½	.07	.06½	.05½	.06¾	.07½	.06¾	.07	.06¾	.07	10,500
Rose Nicol	1	.08⅝		.08½	.09½	.08½	.09¼	.08⅝	.09	.08½	.09	.08½	.09	
Silver Gold	1	.01½	.02	.01½	.02	.01½		.01½	.02	.01½	.02	.01½	.02	
Theresa	1		.07½			.06¼	.07¼		.07½		.07¼	.07	.07½	3,000
Trachyte	1	.06¾	.07	.06¾	.07	.07	.07½	.07⅜	.07¾	.07⅜	.07¾	.07¼	.07¾	26,500
Uncle Sam	1	.03¾		.03¾	.04½		.04½	.03⅝	.04	.03	.04		.04	3,000
Union	1		.12	.05	.12									
Va. M	1	.07	.08	.07		.07¼	.07⅜	.07		.07½		.07⅜	.08	
Vindicator	1		1.30		1.30		1.30							
Work	1	.16½	.18½	.17½	.18½	.11¾	.18½	.19⅛	.19½	.19½		.19	.19½	23,000
Zenobia	1	.10		.10		.10		.19	.12	.10½	.11¼	.10½	.11	2,000

Colorado Springs Mining Stock Exchange. Total sales, 1,245,286 shares.

MONTREAL, CANADA.*

Name of Company.	Par val.	Week Mar. 4. H.	Week Mar. 4. L.	Sales.	Name of Company.	Par val.	Week Mar. 4. H.	Week Mar. 4. L.	Sales.
Big Three	$1	.01½	.01¼		Montreal G. F	$1	.03		
California	1	.05½			Montreal-London	0.24			1,000
Can. Gold Fields	0.10	.07¾	.06¾		Okanogan				
Decca	1	.01½	.01		Oregon	1	.10		10
Deer Trail Con	1	.03	.02		Payne	1	.43	.37½	
Evening Star	1	.07	.08		Rambler-Cariboo	1	.30		
Golden Star	1	.05			Republic Con	1	.40	.37	
Gold Hills Dev	1	.03			Slocan-Sovereign	1	.06	.05	
Knob Hill	1	.58	.52		Virtue	1	.27		2,000
Monte Christo	1	.38			War Eagle	1	.39	.36½	

* Montreal Stock Exchange. Total sales, 3,010 shares.

MEXICO.

March 1.

Name of Company.	No. of shares.	Last div'd	Prices. Op'g.	Prices. Cl'g.	Name of Company.	No. of shares.	Last div'd	Prices. Op'g.	Prices. Cl'g.
Durango:					Hidalgo:				
Barradon y Cab	2,400		$20	$15	Real del Monte	2,554	10.00	550	500
Candelaria de Pan	1,200		20	20	San Francisco Hc.	6,000	1.00	120	110
Capuzaya Guan	2,400		15	12	Soledad	960	5.00	280	250
Restauradora	10,000		20	10	Sorpresa	960	7.50	200	230
Guanajuato.					Union Hacienda	2,000	5.00	240	260
Angustias	2,400	5.00	50	35	Mexico:				
Cinco Senores y An	2,000	15.00	275	270	Coronas	500		75	65
Guadalupe Hacie'a	10,000	2.00	200	210	Esperanza y An	3,000	10.00	900	850
Trinidad, aviadora	2,000		6	7	Michoacan:				
uo. aviada	400		10	7	Luz de Borda ava.	4,000		22	20
Zona Minera de Poz	2,400		6	8	S. Luis Potosi:				
Hidalgo:					Concep. y An	2,400		210	200
Amistad y Concord	9,600	4.80	31	35	Zacatecas:				
Arevalo	730		200	200	Asturiana y An	2,500	10.00	190	160
Bartolome de Med	2,000	2.00	70	60	Cabezon	2,400		15	10
Carmen	1,100	7.75	180	150	C'delar de Pinos	2,500		110	100
Luz Ca Maravillas	800		100	80	Palma de Somb	2,400		40	30
Pabellon	800	27.89	20	10					

DENVER, COLO.‡

Name of Company.	Par val.	Mar. 4. B.	Mar. 4. A.	Mar. 5. B.	Mar. 5. A.	Mar. 6. B.	Mar. 6. A.	Mar. 7. B.	Mar. 7. A.	Mar. 8. B.	Mar. 8. A.	Mar. 9. B.	Mar. 9. A.	Sales.
Acacia	1				.17½							.17½	.18	.18		4,000
Alamo	5											.13¼	.14			
Anaconda	1	.44	.45¾	.45¼	.47	.45	.45½					.44½	.47	.44	.46	
Arg. J	1					.28	.29					.29	.30	.25½	.29	
Dictator	1	.02⅝	.02¾	.02⅜	.02⅝	.02⅝						.02½	.02¾	.02½	.02⅝	23,000
Elkton	1	1.61		1.61	1.62¼	1.63¼						1.65				1,900
Ironclad	1	.06⅜	.06¾	.05⅞	.06⅜	.06	.06¼									12,000
Isabella	1	.68		.70		.74¾							.71		.02	500
Josephine	1	.01¾		.01¼		.01¾	.01½					.01½		.05		5,000
Magnet R	1	.02⅜	.08			.02¾	.08							.08	.03¼	5,000
National	1	.08½				.08½	.09					.03⅜	.08½	.08	.03¼	5,000
New Haven	1					.09½	.09¾					.09½	.09¾	.09¼	.09¾	5,000
Reno	1	.04¾		.05	.03¼	.03½	.03½					.03½	.03¾	.03½		11,000
Republic	1			.07¾			.07¾					.07½	.07¾			2,000
Work	1					.17½						.19	.20	.19		8,000

‡ Official Quotations Denver Stock Exchange. Total sales, 96,400 shares.

SPOKANE, WASH.

Week Mar. 8

Name of Company.	Par val.	B.	A.	Sales.	Name of Company.	Par val.	B.	A.	Sales.
Crystal		.03½	.04¾	5,000	Mountain Lion	$1	.20	.29	
Deer Trail Con	$1	.02¾	.02½	3,900	Princess Maud	0.10	.01½	.02	
Evening Star	1	.04	.07½		Quilp		.27	.32	
Gold Ledge		.01⅜	.02⅛	2,000	Rambler Cariboo	0.25	.25½	.30	8,000
Jim Blaine	1				Reservation		.02	.03½	
Lone Pine-Surp. Con	1	.07⅜	.08¼	12,000	Sullivan		.09¼	.12¼	67,000
Morning Glory	0.10	.06⅝	.07½	13,000	Tom Thumb		.11½	.14	

PARIS.

Feb. 21.

Name of Company.	Country.	Product.	Capital Stock.	Par value.	Latest divs.	Prices. Opening.	Prices. Closing.
			Francs.	Fr.	Fr.	Fr.	Fr.
Acieries de Creusot	France	Steel mfrs	27,000,000	2,000	85.00	1,910.00	1,948.00
" " Firminy	"	"	3,000,000	500	175.00	3,150.00	3,195.00
" " Fives-Lille	"	" "	12,000,000	500		456.00	468.00
" " Huta-Bank	Russia	Iron & steel		500		3,450.00	3,440.00
" " la Marine	France	Steel mfrs	20,000,000	500	60.00	1,535.00	1,549.00
Anzin	"	Coal			360.00	5,600.00	5,735.00
Boleo	Lower Cal	Copper		500	176.00	2,720.00	2,720.00
Briansk	Russia	Coal & iron		500		556.00	580.00
Champ d'Or	S. Africa	Gold	3,375,000	25	3.75	34.25	34.00
Courrieres	France	Coal	600,000	300	90.00	2,325.00	2,325.00
Dombrowa	Russia			500	75.00	998.00	998.00
Dynamite Centrale	France	Explosives		500	22.50	430.00	441.50
Escombrera-Bleyberg	Spain	Lead		500	70.00	1,140.00	1,080.00
Fraser River	Brit. Col'mb.	Gold	250,000	25		7.00	7.00
Huanchaca	Bolivia	Silver	40,000,000	125	5.00	142.00	139.00
Laurium	Greece	Zinc & lead	16,300,000	500	30.00	492.50	492.50
Malfidano	Italy	Zinc	12,500,000	500	50.00	1,015.00	990.00
Metaux, Cie. Fran. de	France	Metal d'iers	25,000,000	500	10.00	470.00	480.00
Mokta-el-Hadid	Algeria	Iron	18,312,500	500	85.00	950.00	925.00
Napthe Baku	Russia	Petroleum				652 50	642.50
Napthe Nobel	"	"				527.50	525.00
" parts	"	"				10,475.00	10,500.00
Nickel	N. Caled'nia	Nickel	10,000,000	250	17.50	491.00	490.00
Penarroya	Spain	Coal, etc		500	100.00	2,535.00	2,500.00
Rebecca	Colo'do, U.S.	Gold	5,000,000	25		2 00	2.25
Salines de l'Est	France	Salt		500	5.00	215.00	230.00
Salines du Midi	"	"		500	25.00	899.00	890.00
Vielle Montagne	Belgium	Zinc	9,000,000	80	36.00	635.00	638.00

LONDON

March 1.

Name of Company.	Country.	Author-ized capital.	Par value.	Last dividend. Amt.	Last dividend. Date.	Quotations. Buyers	Quotations. Sellers.
American:			£ s. d.	s.d.		£ s. d.	£ s. d.
Alaska Goldfields, g	Alaska	£300,000	1 0 0	2 3		13 9	16 3
Alaska-Treadwell, g	"	1,000,000	5 0 0	1 6	Jan., 1901 "	4 18 9	5 1 3
Anaconda, c., s	Montana	6,000,000	5 0 0	8 2	Oct., 1900	9 10 0	9 12 6
British Am. Corp	British Col'mbia	1,500,000	1 0 0	2 0	Mar., 1900	2 9	3 3
Copiapo, c	Chile	200,000	2 0 0	3 4	Dec, 1900	3 6 3	3 8 9
De Lamar, g., s	Idaho	440,000	1 0 0	0 6	May, 1900	2 6	3 6
El Oro	Mexico	1 000,000	1 0 0	1 0	Feb., 1901	1 2 6	1 5 0
Enterprise, g	British Col'mbia	200,000	1 0 0			10 0	15 0
Frontino & Bolivia, g	Colombia	140,000	1 0 0	1 6	Oct., 1899	2 2 6	2 5 0
Grand Central, g., s	Mexico	300,000	1 0 0	2 0	Jan., 1900	5 3	7 6
Hall Mg. & Sm., c., s	British Col	325,000	1 0 0			4 3	4 9
Le Roi, g	" "	1,000,000	5 0 0	5 0	Nov., 1899	7 5 0	7 10 0
Le Roi No. 2, g	" "	120,000	5 0 0			4 5 0	4 7 6
Lillie, g	Colorado	250,000	1 0 0	2½	Apr., 1900	2 0	2 6
Montana, g., s	Montana	660,000	1 0 0	6	Apr., 1899	2 3	2 9
Mountain Copper	California	1,250,000	5 0 0	9 0	Oct., 1900	4 17 6	5 2 6
Rossland Great West, g	British Col'mbia	100,000	5 0 0			2 0 0	2 10 0
Stratton's Independence	Colorado	1,100,000	1 0 0	6	Jan., 1901	1 12 6	1 15 0
St. John del Rey, g	Brazil	600,000	1 0 0	1 0	Dec., 1900	1 2 6	1 5 0
Utah Con.,g.(Highl'nd Boy)	Utah	800,000	1 0 0	rts.	Mar., 1898	6 17 6	7 2 6
Velvet, g	British Col'mbia	100,000	1 0 0			15 0	17 6
Ymir, g	"	200,000	1 0 0	1 0	Jan., 1901	1 10 0	1 12 6
European:							
Linares, l	Spain	45,000	3 0 0	14 0	Oct., 1900	8 0 0	9 0 0
Mason & Barry, c., sul	Portugal	420,000	2 0 0	£1	" "	3 12 6	3 17 6
Rio Tinto, c	Spain	1,625,000	5 0 0	£2	" "	60 0	60 7 6
" " pref	"	1,625,000	5 0 0	2 6	" "	6 0 0	6 2 6
Tharsis, c	"	1,250,000	2 0 0	15 0	Apr., 1900	9 2 6	9 5 6
Australian:							
Assoc. Gold Mines	W. Australia	500,000	1 0 0	1 6	Jan., 1900	2 10 0	2 12 6
*Broken Hill Prop., s	N. S. Wales	384,000	8 0	1 6	Nov., 1900	2 6 6	2 7 6
Great Boulder Prop	W. Australia	175,000	2 0	6	Feb., 1901	1 13 6	1 14 0
Hannan's Brownhill, g	"	140,000	1 0 0	7 6	Oct., 1900	4 0 0	4 2 6
Ivanhoe Gold Corp	"	1,000,000	5 0 0	5 0	Nov., 1900	8 2 6	8 5 0
Kalgurlie, g	"	120,000	1 0 0	rts.	Oct., 1899	3 12 6	3 17 6
Lake View Consols, g	"	250,000	1 0 0	5 0	Aug., 1900	7 16 3	7 18 9
Mt. Lyell M. & R., l., c	Tasmania	900,000	3 0 0	2 0	Apr., 1901	4 17 6	5 0 0
Mt. Morgan, g	Queensland	1,000,000	1 0 0	7	Mar., 1901	4 16 3	4 18 9
Waihi g	New Zealand	330,000	1 0 0	2 6	Mar., 1901	9 12 6	9 17 6
Indian:							
Champion Reef, g	Colar Fields	220,000	10 0	5 0	Jan., 1901	5 15 0	5 17 6
Mysore Gold, g	"	250,300	10 0	rts.	Dec., 1900	6 0 0	6 2 6
Nundyroog, g	"	242,000	1 0 0	2 9	Mar., 1901	3 10 0	3 12 6
Ooregum, g	"	145,000	1 0 0	2 6	Dec., 1900	4 2 6	4 5 0
" pref. g	"	120,000	1 0 0	2 6	" "	4 17 6	5 2 6
African:							
British S. Africa, chartered	So. Africa	5,000,000	1 0 0	rts.	May, 1899	3 11 3	3 13 9
Cape Copper, c	"	600,000	1 0 0	5 0	Jan., 1901	5 5 0	5 10 0
" " pref	"	150,000	2 0 0	5 0	" "	4 10 0	5 0 0
City & Suburban (New), g	Transvaal	1,360,000	4 0 0	8 0	Aug., 1899	5 15 0	6 0 0
Con. Deep Level, g	"	200,000	1 0 0	x all	June, 1898	1 2 6	1 7 6
Crown Reef, g	"	120,000	1 0 0	18 0	Nov., 1899	15 5 0	15 15 0
De Beers Con., d	Cape Colony	3,950,000	5 0 0	£1	Jan., 1901	32 0 0	32 5 0
Ferreira, g	Transvaal	90,000	1 0 0	30 0	Aug., 1899	20 15 0	21 5 0
Geldenhuis Deep, g	"	350,000	1 0 0	8 0	" "	10 5 0	10 10 0
Geldenhuis Est., g	"	200,000	1 0 0	10 0	" "	6 17 6	7 2 6
Henry Nourse, g	"	125,000	1 0 0	10 0	Apr., 1900	8 15 0	9 0 0
Jagersfontein, d	Orange Fr. St.	1,000,000	5 0 0	6 0	Sept., 1900	17 10 0	18 10 0
Johannesburg Con. Invest	So. Africa	2,750,000	1 0 0	2 0	Aug., 1899	2 3 9	2 6 3
Jubilee, g	Transvaal	50,000	1 0 0	5 0	Sept., 1899	6 5 0	6 15 0
Langlaagte Estate, g	"	470,000	1 0 0	3 0	Aug., 1899	3 10 0	3 12 6
May Con., g	"	290,000	1 0 0	6 0	July, 1899	4 10 0	4 12 6
Meyer & Charlton, g	"	100,000	1 0 0	8 0	June, 1899	5 7 6	5 12 6
Namaqua, c	Cape Colony	200,000	2 0 0	4 0	Dec., 1900	4 15 0	5 0 0
Primrose (New), g	Transvaal	300,000	1 0 0	6 0	Aug., 1899	4 8 9	4 11 3
Rand Mines, g	So. Africa	490,000	1 0 0	15 0	" "	42 5 0	42 10 0
Robinson, g	Transvaal	2,750,000	5 0 0	8 0		9 7 6	9 12 6
Sheba, g	"	1,100,000	1 0 0	0 6	July, 1898	1 0 0	1 2 6
Sim. & Jack Prop., g	"	5,000,000	5 0 0	4 0	July, 1899	6 11 3	6 13 9
Wolhuter, g	"	830,000	4 0 0	2 0	Feb., 1899	4 12 6	4 17 6

*Ex-Dividend.

DIVIDENDS.

GOLD, SILVER, COPPER, ZINC, LEAD AND QUICKSILVER COMPANIES.

Number.	Name and Location of Company.		Author-ized Capital Stock.	Shares Issu'd No.	Shares Issu'd Par Val	Dividends. Paid, 1901.	Dividends. Total to Date.	Latest. Date.	Latest. Amt.
1	Acacia, g.	Colo.	$1,500,000	1,500,000	$1		$45,000	Dec.. 1900	.01
2	Adams, s.l.c.	Colo.	1,500,000	150,000	10		701,000	Nov.. 1900	.05
3	Ætna Con., q.	Cal..	500,000	100,000	5		225,000	April. 1900	.15
4	Alaska-Mexican, g.	Alask	1,000,000	180,000	5	$18,000	519,031	Jan.. 1901	.10
5	Alaska-Treadwell, g.	Alask	5,000,000	200,000	25	75,000	4,595,000	Jan.. 1901	.37½
6	Amalgamated, c.	Mont.	75,000,000	750,000	100	1,500,000	9,000,000	Jan.. 1901	2.00
7	Amazon, g.	Colo..	600,000	600,000	1		121,882	May.. 1900	.10
8	Amer. Sm. & Ref., pref.	U. S..	32,500,000	274,000	100	479,500	3,162,053	Jan.. 1901	1.75
9	Am. Zinc, Lead & Sm.	Mo..	2,500,000	60,000	25		180,000	Jan.. 1900	1.00
10	Anaconda, c.	Mont.	30,000,000	1,200,000	25		16,950,000	Oct.. 1900	2.00
11	Apollo Con., g.	Alask	1,009,000	100,000	10		210,000	Jan.. 1900	.07
12	Argonaut, g.	Cal..	2,000,000	200,000	10		490,000	May.. 1900	.05
13	Arizona, c.	Ariz..	3,190,550				1,464,848	Sept.. 1900	.84
14	Atlantic, c.	Mich.	1,000,000	40,000	25	80,000	880,000	Feb.. 1901	2.00
15	Bald Butte, g. s.	Mont.	250,000	250,000	1		852,148	Sept.. 1900	.06
16	Boston-Aurora, pref.	Mo..	800,000	32,000	25		66,160	May.. 1900	.50
17	Boston & Colo. Smelting	Colo..	750,000	15,000	50	11,250	326,350	Jan.. 1901	.75
18	Boston Duenweg, z.	Mo..	1,000,000	40,000	10		56,000	June.. 1900	.10
19	Boston Get There, z.	Mo..	250,000	22,500	10		20,250	April. 1900	.10
20	Boston Gold-Copper Sm.	Colo..	1,000,000	1,000,000	1		50,000	Nov.. 1900	.02½
21	Boston & Mont. Con., c. s. g	Mont.	3,750,000	150,000	25	1,500,000	22,475,000	Feb.. 1901	10.00
22	Boston Phila., z. l.	Kas..	200,000	20,000	10		2,000	May.. 1900	.10
23	Boston Providence, z., pf	Mo..	150,000	15,000	10		17,242	Aug.. 1900	.05
24	Boston, q.	Cal..	1,000,000	100,000	10		20,000	Jan.. 1900	.10
25	Boston Springfield, z.	Mo..	500,000	20,000	25		15,000	June.. 1900	.25
26	Breece, i.s.	Colo..	5,000,000	200,000	25		100,000	Dec.. 1900	.05
27	Buffalo Hump, g. s. l.	Idaho	1,000,000	100,000	10	25,000	300,000	Jan.. 1901	.10
28	Bullion-Beck & Champ.	Utah.	1,000,000	100,000	10		2,498,400	June.. 1900	.10
29	Bull Hill Con., g.	Colo..	1,500,000	1,500,000	1		15,000	Dec.. 1900	.01
30	Bunker Hill & Sullivan.	Idaho	3,000,000	300,000	10	21,000	1,074,000	Jan.. 1901	.07
31	Butte & Boston Con., c.	Mont.	2,000,000	200,000	10		1,000,000	Dec.. 1900	5.00
32	Butterfly-Terrible, g.	Colo..	1,500,000	1,250,000	1	6,250	6,250	Jan.. 1901	.00½
33	Calumet & Hecla, c.	Mich.	2,500,000	100,000	25		73,850,000	Dec.. 1900	20.00
34	Cariboo-McKinney, g.	B. Col	1,250,000	1,250,000	1		478,087	Oct.. 1900	.01½
35	Centen'l-Eureka, g. s. l. c.	Utah.	5,000,000	100,000	25	50,000	2,467,700	Jan.. 1901	.50
36	Center Creek, l. z.	Mo..	1,000,000	100,000	10		40,000	Dec.. 1900	.20
37	Center Star, g.	B. C..	3,500,000	3,500,000	1	35,000	105,000	Feb.. 1901	.01
38	Central Lead, l.	Mo..	1,000,000	10,000	100	5,000	212,000	Jan.. 1901	.50
39	Cloverdale, z.	Mo..	1,000,000	100,000	10		80,000	July.. 1900	.20
40	Columbia, l.	Mo..	500,000	48,500	10		16,975	Nov.. 1900	.05
41	Commonwealth, z., pref.	Mo..	500,000	100,000	5		50,000	June. 1900	.05
42	Consolidated Gold Mines	Colo..	1,000,000	1,000,000	1	10,000	140,000	Jan.. 1901	.01
43	Con. Mercer Gold Mines.	Utah.	5,000,000	1,000,000	5		1,591,000	Nov.. 1900	.11
44	Consolidated, z. l., pf.	Mo..	400,000	400,000	1		8,000	Jan.. 1900	.20
45	Cordell, z. l.	Mo..	300,000	60,000	5		30,000	Sept.. 1900	.05
46	Crœsus, g.	Cal..	1,000,000	200,000	5		151,300	Dec.. 1901	.06
47	Daly West, g.	Utah.	3,000,000	150,000	20	90,000	697,500	Feb.. 1901	.30
48	De Lamar, g. s.	Idaho	2,000,000	400,000	5		2,394,000	May.. 1900	.12
49	Dixie, g.	Utah.	125,000	125,000	1		10,000	April. 1900	.02
50	Doctor-Jack Pot Con., g	Colo..	3,000,000	2,900,000	1	29,000	29,000	Jan.. 1901	.01
51	Doe Run, l.	Mo..	1,500,000	10,000	100	15,000	417,072	Jan.. 1901	1.50
52	Ducktown, c. i. sul. (ord)	Tenn.	374,000	7,480	50		133,144	May.. 1900	5.00
53	Ducktown (founder).	Tenn.	1,000	200	5		66,160	May.. 1900	125.00
54	Elkton Con., g.	Colo..	3,000,000	2,500,000	1		979,461	Dec.. 1900	.03
55	Empire State-Idaho.	Idaho	6,000,000	100,000	10	29,554	702,241	Jan.. 1901	.30
56	Florence, s.	Mont.	2,500,000	440,000	5		252,000	April. 1900	.05
57	Frisco Con., l. s.	Idaho	2,500,000	500,000	5		920,000	Nov,. 1899	.25
58	Gemini	Utah.	500,000	5,000	100		700,000	Aug.. 1900	10.00
59	Gold Belt, g.	Colo..	1,250,000	1,250,000	1		112,500	Aug.. 1900	.09
60	Gold Coin of Victor, g.	Colo..	1,000,000	1,000,000	1	30,000	630,000	Jan.. 1901	.03
61	Gold Deposit, g.	Colo..	500,000	500,000	1		10,000	Mar.. 1900	.02
62	Gold King, g.	Colo..	1,000,000	936,850	1		178,001	Oct.. 1900	.03
63	Golden Cycle, g.	Colo..	1,000,000	200,000	5	10,000	388,500	Jan.. 1901	.05
64	Golden Eagle, g.	Colo..	500,000	500,000	1		25,000	June. 1900	.01
65	Grand Central, g.	Utah.	250,000	250,000	1		691,250	Nov.. 1900	.10
66	Grand Gulch, c.	Ariz..	250,000	240,000	1		9,600	April. 1900	.01
67	Grass Valley Expl	Cal..	100,000	30,000	2		67,500	May.. 1900	.25
68	Greater Gold Belt, g.	Colo..	5,000,000	3,800,000	1		76,000	June. 1900	.02
69	Gwin, g.	Cal.	1,000,000	100,000	10	15,000	166,500	Jan.. 1901	.15
70	Hecla, l. s.	Idaho	250,000	1,000,000	¼		100,000	Dec.. 1900	.02
71	Hecla Con., s. l.	Mont.	1,500,000	30,000	50		2,220,000	Dec.. 1900	.05
72	Helena, g.	Ore..	1,000,000	1,000,000	1	5,000	50,000	Jan.. 1901	.00½
73	Hidden Treasure, g.	Cal..	360,000	36,000	10		457,452	Sept.. 1900	.10
74	Holy Terror, g.	S. D..	500,000	500,000	1		172,000	Jan.. 1900	.01
75	Home, g.	Colo..	50,000	50,000	1		100,000	July.. 1900	.50
76	Homestake, g.	S. D..	21,000,000	210,000	$100	$105,000	$9,508,750	Jan.. 1901	.50
77	Horn-Silver, g. s. c.z.l.	Utah.	10,000,000	400,000	25		5,279,000	June. 1900	.05
78	Ingham Con., g.	Colo..	750,000	1,359,600	½	6,798	6,798	Jan.. 1901	.00½
79	Iowa, g. s. l.	Colo..	1,666,667	1,666,667	1		136,834	June. 1900	.00½
80	Iron Silver	Colo.	10,000,000	500,000	20		2,550,000	Dec.. 1900	.10
81	Isabella, g.	Colo..	2,250,000	2,250,000	1		720,000	Dec.. 1900	.01
82	Jamison, g.	Cal ..	3,900,000	390,000	10		50,700	April. 1899	.10
83	La Fortuna, g.	Ariz..	250,000	250,000	1		920,500	Dec.. 1900	.05
84	Lake City, g	Colo..	50,000	50,000	1		3,875	May . 1900	.01
85	Last Dollar, g.	Colo..	1,500,000	1,500,000	1		120,000	Nov.. 1900	.02
86	Le Roi, g.	B. Col	5,000,000	200,000	5		1,305,000	Nov.. 1899	1.20
87	Lightner, g.	Cal..	125,000	105,000	1		5,250	Oct... 1900	.05
88	Lillie, g.	Colo..	1,250,000	250,000	5		349,183	April. 1900	.05
89	Mammoth, g. s. c.	Utah.	10,000,000	400,000	25		1,790,000	Nov.. 1900	.05
90	Marion Con., g.	Colo..	5,000,000	500,000	10		300,000	May.. 1899	.01
91	Mary McKinney, g.	Colo..	1,000,000	1,000,000	1	30,000	210,000	Jan.. 1901	.03
92	Midget, g.	Colo..	1,000,000	1,000,000	1		120,000	Dec.. 1900	.15
93	Modoc, g. s.	Colo..	500,000	500,000	1	5,000	210,000	Jan.. 1901	.01
94	Montana, Ltd., g. s.	Mont.	3,300,000	657,128	5		453,700	April. 1899	.12
95	Montana Ore Purchas'g.	Mont.	2,500,000	80,000	25	240,000	1,840,000	Jan.. 1901	3.00
96	Morning Star Drift, g.	Cal..	240,000	2,400	100		854,400	Sept.. 1900	3.00
97	Mountain, c.	Cal ..	6,250,000	250,000	25		2,373,750	Oct... 1900	2.16
98	Mt. Diablo, s.	Nev..	5,000,000	50,000	100		260,271	Jan.. 1900	.10
99	Mt. Rosa, g.	Colo..	1,000,000	1,000,000	1		75,000	Dec.. 1899	.04
100	Moulton, g.	Mont.	2,000,000	400,000	5		500,000	Oct... 1899	.05
101	Napa Con., q.	Cal ..	700,000	100,000	7	10,000	1,210,000	Jan.. 1901	.10
102	National Lead, com.	U. S..	15,000,000	149,054	100		1,341,486	Mar.. 1900	1.00
103	National Lead, pf.	U. S..	15,000,000	149,040	100		10,579,280	Dec.. 1900	1.75
104	New Idria, q.	Cal..	500,000	100,000	5	20,000	270,000	Jan.. 1901	.20
105	N. J. & Mo., z.	Mo..	250,000	2,500	100		11,000	June.. 1900	2.00
106	N.Y.& Hon Rosario, s.g.	C. A..	1,500,000	150,000	10	15,000	1,430,000	Jan.. 1901	.10
107	New Zealand, g.	Colo..	600,000	600,000	1	60,000	60,000	Jan.. 1901	.10
108	North Star, g.	B. C..	1,500,000	1,300,000	1		117,000	Dec.. 1900	.03
109	North Star Mines.	Cal ..	5,000,000	250,000	10		584,850	Nov.. 1899	.20
110	Nugget, g.	Colo..	1,000,000	991,000	1	9,910	64,910	Jan.. 1901	.01
111	Old Colony Zinc & Sm.	Mo..	1,100,000	69,909	10	17,477	85,753	Feb.. 1901	.25
112	Omega, g.	Colo..	1,500,000	1,212,550	1		18,188	June. 1900	.01½
113	Ontario, s. l.	Utah.	15,000,000	150,000	100		13,662,500	April. 1900	.30
114	Osceola, c.	Mich.	2,500,000	93,000	25		3,638,500	Dec.. 1900	3.00
115	Parrot, c.	Mont.	2,300,000	229,850	10	344,775	4,738,600	Jan.. 1901	1.50
116	Pennsylvania Con., g.	Cal..	5,150,000	51,500	100		161,325	May.. 1900	.10
117	Plumas Eureka, g.	Cal ..	1,406,250	140,625	10		2,797,544	April. 1900	.60
118	Portland, g.	Colo..	3,000,000	3,000,000	1	180,000	3,487,080	Jan.. 1901	.06
119	Quicksilver, pref.	Cal..	4,300,000	43,000	100		1,866,911	July.. 1900	.50
120	Quincy, c.	Mich.	2,500,000	100,000	25	300,000	12,270,000	Feb.. 1901	3.00
121	Rambler—Cariboo, s. l.	B. Col	1,250,000	1,250,000	1		105,000	Mar.. 1900	.01
122	Republic Con., g.	Wash	3,500,000	3,500,000	1		382,500	Mar.. 1900	.01
123	Rocco-Homestake, g. s.	Nev..	300,000	300,000	1	4,500	13,500	Jan.. 1901	.01½
124	Sacramento, g.	Utah.	5,000,000	1,000,000	5		138,000	Oct... 1899	.00½
125	St. Joseph, l.	Mo..	3,000,000	250,000	10		3,399,500	Dec.. 1900	.15
126	Santa Rita, g.	Colo..	1,000,000	1,000,000	1		4,000	July.. 1900	.02
127	Silver King, g. s. l.	Utah.	3,000,000	150,000	20	75,000	3,525,000	Jan.. 1901	.50
128	Silver Shield, g.	Utah.	300,000	300,000	1	1,500	3,000	Jan.. 1901	.00½
129	Small Hopes, s.	Colo..	5,000,000	250,000	20		3,325,000	Feb.. 1899	.10
130	Smuggler, s. l. z.	Colo..	1,000,000	1,000,000	1	30,000	1,760,000	Jan.. 1901	.03
131	South Swansea, s. l.	Utah.	150,000	150,000	1		165,000	Oct... 1899	.05
132	Southern Boy, g.	Colo..	1,250,000	875,000	1		17,500	May . 1900	.02
133	Squaw Mountain, g.	Colo..	2,000,000	2,000,000	1		10,000	Nov.. 1899	.00½
134	Standard Con., g. s.	Cal..	2,000,000	200,000	10		3,979,226	Nov.. 1900	.10
135	Standard, s. l.	Idaho	500,000	500,000	1		2,165,000	Dec.. 1900	.08
136	Stratton's Independ'ce.	Colo..	5,500,000	1,000,007	5	120,001	2,885,353	Jan.. 1901	.12
137	Swansea, s. l.	Utah.	500,000	100,000	5	5,000	281,500	Jan.. 1901	.05
138	Tamarack, c.	Mich.	1,500,000	60,000	25		7,200,000	Dec.. 1900	10.00
139	Tomboy, g.	Colo..	1,500,000	300,000	5		956,000	Dec.. 1900	.24
140	Touraine, g.	Colo..	1,250,000	1,250,000	1		87,500	April. 1900	.07
141	Union, g.	Colo..	1,250,000	1,250,000	1		395,244	Sept.. 1900	.2
142	Union, z. l.	Kas..	500,000	500,000	1	10,000	45,000	Feb.. 1901	.0
143	United, z. l., pref.	Mo..	6,000,000	14,938	25		30,263	Oct... 1900	.50
144	Utah, g.	Utah.	2,000,000	100,000	10		181,000	Oct... 1900	.02
145	Vindicator Con., g.	Colo..	1,500,000	1,500,000	1	27,500	521,000	Jan.. 1901	.02½
146	War Eagle Con., g. s. c.	B. C..	2,000,000	1,750,000	1		545,250	Feb.. 1900	.01½
147	What Cheer, z.	Mo..	225,000	22,500	10		11,250	May.. 1900	.20½
148	Wolverine, c.	Mich.	1,500,000	60,000	25		510,000	Oct.. 1900	2.00
149	Yellow Aster, g.	Cal..	1,000,000	100,000	10		459,410	Dec.. 1900	.10
150	Zoe, g.	Colo..	1,500,000	1,500,000	1		7,500	Dec.. 1900	.00½

COAL, IRON AND OTHER COMPANIES.

Number.	Name and Location of Company.		Author-ized Capital Stock.	Shares Issu'd No.	Shares Issu'd Par Val	Dividends. Paid, 1901.	Dividends. Total to Date.	Latest. Date.	Latest. Amt.
1	Alabama Coal & Iron, pf	Ala...	$2,500,000	25,000	$100		$218,750	Nov.. 1900	1.75
2	Altoona Coal & Coke.	Pa....	2,500 000	250 000	10	$75,000	75,000	Jan.. 1901	.30
3	Am. Agricul. Chem., pf.	U. S..	20,000,000	170,000	100		1,530,000	Oct... 1900	3.00
4	American Cement.	Pa....	2,100,000	200,000	10	80,000	220,000	Jan.. 1901	.40
5	American Coal.	Md....	1,500,000	60,000	25		982,500	Sept.. 1900	1.00
6	Am. Fuel Oil.	Cal...	100,000	100,000	1	1,000	16,000	Jan.. 1901	.01
7	Am. Iron & Steel, com.	Pa....	17,000,000	34,000	50	8,500	42,500	Jan.. 1901	.25
8	Am. Iron & Steel, pf.	Pa....	3,000,000	60,000	50	37,500	237,480	Jan.. 1901	.62½
9	Am. Sheet Steel, pf.	U. S..	26,000,000	245,000	100	428,750	428,750	Jan.. 1901	1.75
10	Am. Steel Hoop, pf.	U. S..	14,000,000	140,000	100	245,000	1,470,000	Jan.. 1901	1.75
11	Am. Steel & Wire, com.	U. S..	50,000,000	500,000	100		2,625,000	Oct... 1900	1.75
12	Am. Steel & Wire, pf.	U. S..	40,000,000	400,000	100	700,000	6,300,000	Jan.. 1901	1.75
13	Arizona Western Oil.	Cal...	100,000	100,000	1		1,000	Sept.. 1900	.01
14	Bethlehem Steel	Pa....	15,000 000	300,000	50		900,000	Dec.. 1900	.50
15	Buckhorn Oil.	Cal...	200,000	16,000	10		3,800	Mar.. 1900	.05
16	Burlington Oil.	Cal...	60,000	60,000	1	600	4,200	Jan.. 1901	.01
17	Cambria Steel	Pa....	16,000,000	320,000	50	160,000	1,760,000	Feb.. 1901	.50
18	Central Oil.	W. Va	1,500,000	60,000	25	22,500	45,000	Feb.. 1901	.37½
19	Colo. Fuel & Iron, pf.	Colo..	2,000,000	20,000	100	80,000	1,240,000	Feb.. 1901	4.00
20	Consolidation Coal.	Md....	10,250,000	102,500	100	205,000	5,318,000	Feb.. 1901	2.00
21	Continental Oil.	Cal...	300,000	240,000	1	7,200	7,200	Apr.. 1901	.03
22	Crucible Steel, pf.	U. S..	25,000,000	243,995	100		426,991	Dec.. 1900	1.75
23	Diamond Star Oil.	Cal...	250,000	100,000	1		6,250	Nov.. 1900	.02
24	Diamond State Steel.	Del ..	3,000,000	150,000	10	60,000	160,000	Jan.. 1901	.40
25	Empire Steel & Iron, pf.	U. S..	5,000,000	23,700	100	35,550	213,300	Jan.. 1901	1.50
26	Federal Steel, com.	U. S..	100000,000	464,843	100	2,324,215	4,067,377	Feb.. 1901	5.00
27	Federal Steel, pf.	U. S..	100000,000	532,609	100	798,914	7,456,568	Jan.. 1900	1.50
28	Flat Top C. L. Ass'n, com	Va..	5,000,000	37,141	100	37,141	315,699	Feb.. 1901	1.00
29	Flat Top C. L. Ass'n, pf.	Va..	5,000,000	37,141	100	37,141	1,987,027	Feb.. 1901	1.00
30	General Chem., com.	U. S..	12,500,000	70,703	100		411,814	Dec.. 1900	1.00
31	General Chem., pf.	U. S..	12,500,000	81,264	100	121,896	641,855	Jan.. 1901	1.50
32	Gray Eagle Oil.	Cal...	250,000	100,000	2½	50,000	170,000	Jan.. 1901	.50
33	Great Western Oil.	Cal...	100,000	10,000	10		10,000	Oct... 1900	.10
34	Home Oil.	Cal...	100,000	100,000	1	10,000	210,000	Jan.. 1901	.10
35	Homestake Oil.	Cal...	100,000	10,000	10		23,000	Dec.. 1900	.25
36	Jefferson & Clearf. C'l, cm	Pa....	1,500,000	15,000	100		30,000	Aug.. 1900	2.00
37	Jefferson & Clearf. C'l, pf.	Pa....	1,500,000	15,000	100	37,500	225,000	Feb.. 1901	2.50
38	Kern Oil.	Cal...	100,000	100,000	1	25,000	350,000	Jan.. 1901	.25
39	Kern River Oil.	Cal...	100,000	20,000	5		10,000	Sept.. 1900	.50
40	Lehigh Coal & Nav.	Pa....	14,346,650	286,933	$50		18,516,990	Oct... 1901	1.50
41	Maryland Coal, pf.	Md....	1,885,005	18,850	100		645,869	Dec.. 1900	3.00
42	Monongahela R. Coal, pf	Pa....	10,000,000	200,000	50	$350,000	760,000	Jan.. 1901	1.75
43	Montana Coal & Coke.	Mont.	5,000,000	200,000	25		120,000	Oct... 1900	.30
44	National Salt, com.	U. S..	7,000,000	70,000	100	105,000	350,000	Feb.. 1901	1.50
45	National Salt, pf.	U. S..	5,000,000	50,000	100	87,500	612,500	Feb.. 1901	1.75
46	National Steel, pf.	U. S..	27,000,000	270,000	100		3,307,500	Dec.. 1900	1.75
47	National Tube, com.	U. S..	40,000,000	398,604	100	597,906	1,793,718	Feb.. 1901	1.50
48	National Tube, pf.	U. S..	40,000,000	399,963	100	699,935	4,199,611	Jan.. 1901	1.75
49	New Central Coal.	Md....	1,000,000	50,000	20		510,000	Nov.. 1900	.40
50	New Haven Iron & Steel	Conn.	500,000	100,000	5	7,500	102,500	Jan.. 1901	.07½
51	Oceanic Oil.	Cal...	100,000	100,000	1		2,000	Dec.. 1900	.01
52	Pacific Coast Borax.	Cal...	2,000,000	20,000	100		762,500	Dec.. 1900	1.00
53	Park Crude Oil.	Cal...	100,000	82,146	1		4,897	Sept.. 1900	.01
54	Pennsylvania Coal.	Pa....	5,000,000	100,000	50		19,700,000	Nov.. 1900	2.00
55	Pennsylvania Salt Mfg.	Pa....	2,500,000	50,000	50		12,550,000	Oct... 1900	3.00
56	Pennsylvania Steel, pf.	Pa....	1,500,000	15,000	100	26,250	157,500	Jan.. 1901	1.75
57	Pittsburg Coal., pf.	Pa....	32,000,000	320,000	100	560,000	2,800,000	Jan.. 1901	1.75
58	Producers' & Con. Oil	Cal...	1,000,000	10,000	100		50,000	Oct... 1900	.30
59	Republic Iron & Steel, pf	U. S..	25,000,000	203,069	100	855,371	2,132,225	Jan.. 1901	1.75
60	Rex Crude Oil.	Cal...	500,000	85,000	5		26,000	Oct... 1900	.03
61	San Joaquin Oil.	Cal...	100,000	100,000	1	10,000	10,000	Jan.. 1901	.10
62	Shawmut Oil.	W. Va	1,250,000	50,000	25	25,000	25,000	Feb.. 1901	.50
63	Shelby Iron.	Ala..	1,000,000	10,000	100		250,000	June. 1900	12.00
64	Sloss-Sheffield Ir. & St., pf	U. S..	20,000,000	67,000	100	114,000	456,000	Jan.. 1901	1.75
65	So. Cal. Oil & Fuel.	Cal...	300,000	100,000	1		3,000	Dec.. 1900	.00½
66	Standard Oil (of N. J.).	U. S..	100000,000	975,000	100		73,125,000	Sept.. 1900	8.00
67	Susquehanna I. & S., pf.	Pa..	1,500,000	300,000	5	22,500	537,500	Jan.. 1901	.07½
68	Tenn. Coal, I. & R.R., com	Tenn.	23,000,000	225,536	100		1,102,144	Nov.. 1900	2.00
69	Tenn. Coal, Ir. & R.R., pf	Tenn.	248,000	2,480	100	4,960	248,000	Feb.. 1901	2.00
70	Texas & Pacific Coal.	Tex..	2,000,000	20,000	100	30,000	1,830,000	Jan.. 1901	1.50
71	United States Crude Oil.	Cal..	100,000	10,000	1		3,200	Dec.. 1900	.03
72	United States Oil.	W. Va	2,500,000	100,000	25		744,250	Oct.. 1900	.50
73	Va.-Carolina Chem., com	U. S..	12,000,000	90,000	100		720,000	Dec.. 1900	1.00
74	Va.-Carolina Chem., pf.	U. S.	12,000,000	100,000	100	200,000	1,400,000	Jan.. 1901	2.00
75	Warwick Iron & Steel.	Pa....	1,500,000	14,133	100		158,597	Nov.. 1900	2.00
76	West Lake Oil.	Cal ..	500,000	500,000	1		50,000	Sept.. 1900	.01
77	Westmoreland Coal.	Pa....	5,000,000	250,000	50		750,000	Oct... 1900	1.50
78	Yukon Oil.	Cal...	2,500,000	100,000	2½		21,000	Oct... 1900	.02

This table is corrected up to January 30th. Correspondents are requested to forward changes or additions

CHEMICALS, MINERALS, RARE ELEMENTS, ETC.—CURRENT WHOLESALE PRICES.

	Cust.	Meas.	Price.
Abrasives—			
Carborundum, f.o.b. Niagara Falls, Powd., F. FF. FFF	lb.		$0.12
Minute No. 1	"		.15
No. 15	"		1.00
Corundum, N. C.	"		.07@.10
Chester, Mass.	"		.04½@.05
Crushed Steel, f. o. b. Pittsburg	"		.05½
Emery, Turkish flour, in kegs	"		.03
Grains, in kegs	"		.04½@.05
Naxos flour, in kegs	"		.03
Grains, in kegs	"		.05
Chester flour, in kegs.	"		.03
Grains, in kegs	"		.04½@.05
Peekskill flour, in kegs	"		.01¾
Grains, in kegs.	"		.02½
Crude, ex-ship, N. Y.:			
Kuluk (Turkey)	lg. ton		22.00@24.00
Abbott (Turkey)	"		26.50@30.00
Naxos (Greek) h. gr.	"		32.00
Pumice Stone, Am. powd.	lb.		.01½@.02
Italian, powdered	"		.01¼
Lump, per quality	"		.04@.40
Rottenstone, ground	"		.02½@.03
Lump, per quality	"		.05@.14
Rouge, per quality	"		.10@.30
Steel Emery, f.o.b. Pittsburg	"		.07
Acids—Acetic, 30% pure	100 lbs.		3.50
30% ch. pure	"		6.00
80% pure	"		7.50
Benzoic, English	oz.		.12
German	lb.		.40
Boracic, crystals	"		.10½@.11
Powdered	"		.11@.11½
Carbolic, crude, 60%	gal.		.27
Cryst, 37% drums	lb.		.23
Liquid, 95%	gal.		.45
Carbonic, liquid gas	lb.		.12½
Chromic, crude	"		.20
Chem. pure	"		.50
Hydrochloric, ch. pure.	"		.07
Hydrofluoric, 36%	"		.03
48%	"		.05
Best	"		.25
Nitric, chem. pure	"		.09
Sulphuric, chem. pure	"		.07
Sulphurous, liquid anhy.	"		.08
Tartaric, cryst	"		.29@.29½
Powder	"		.30@.30½
Alcohol—Grain	gal.		2.45
Refined wood, 95@97%	"		.60@.65
Purified	"		1.20@1.50
Alum—Lump	100 lbs.		1.75
Ground	"		1.85
Powdered	"		3.00
Chrome, com'l	"		2.75@3.00
Aluminum—Nitrate	lb.		1.50
Oxide, com'l, common	"		.06½
Best	"		.20
Pure	"		.80
Hydrated	100 lbs.		2.60
Sulphate, pure	"		1.50@1.75
Com'l	"		1.15@1.25
Ammonia—Aqua, 16°	lb.		.03
18°	"		.03¼
20°	"		.03¾
26°	"		.05¼
Ammonium—			
Bromide, pure	"		.52@.53
Carbonate lump	"		.08¼@.08½
Powdered	"		.09½@.09¾
Muriate, gran.	"		.06
Lump	"		.09¼
Nitrate, white, pure (99%)	"		.10½
Phosphate, com'l	"		.10
Chem. pure	"		60
Antimony—			
Glass	"		.30@.40
Needle, lump	"		.05½@.06
Powdered, ordinary	"		.05¼
Best	"		.08½
Oxide, com'l white, 95%	"		.09½
Com'l white, 99%	"		.12
Com'l gray	"		.07
Sulphuret, com'l	"		.16
Arsenic—White	"		.04½@.04¾
Red	"		.07@.07¼
Asphaltum—			
Ventura, Cal.	sh. ton		32.00
Cuban	lb.		.01¼@.03¼
Egyptian, crude	"		.05½@.06
Trinidad, refined	lg. ton		35.00
San Valentino (Italian)	"		16.00
Seyssel (French) mastic	sh. ton		21.00
Gilsonite, Utah, ordinary	lb.		.03
Select	"		.03¼
Barium—Carbonate, Lump, 80@90%	sh. ton		25.00@27.50
92@98%	"		26.00@29.00
Powdered, 80@90%	lb.		.01¾@02
Chloride, com'l	"		.02@.02¼
Chem. pure cryst	"		.05
Nitrate, powdered	"		.06
Oxide, com'l, hyd. cryst	"		.18
Hydrated, pure cryst.	"		.25
Pure, powd.	"		.27
Sulphate	"		.01
Barytes—Am. Cr., No. 1	sh. ton		9.00
Crude, No. 2	"		8.00
Crude, No. 3	"		7.75
German, gray	"		14.50
Snow white	"		17.00
Bauxite—Ga. mines: 1st grade	lg. ton		5.00
Second grade	"		4.25@4.50
Ala., f.o.b., 1st grade	"		5.00
Second grade	"		4.25@4.50
Bismuth—Subnitrate	lb		1.75
Subcarbonate	"		1.95
Bitumen, "B"	"		.03½
"A"	"		.05
"A" and "B"	"		.04½
Bone Ash	"		03¾@.03½

	Cust.	Meas.	Price.
Borax	lb.		$ .07¼@.07½
Calcined	"		.25
Bromine	"		.40
Cadmium—Metallic	"		1.40
Sulphate	100 lbs.		2.00@2.50
Calcium—Acetate, gray	"		1.55
" brown	"		1.05
Carbide, ton lots, f. o. b. Niagara Falls, N.Y.	sh. ton		80.00
Carbonate, ppt	lb.		.05
Chloride, com'l	100 lbs.		.75
Best	"		.80
Sulphite	lb.		.05
Cement—			
Portland, Am., 400 lbs.	bbl.		1.50@2.00
Belgium	"		1.95@2.20
English	"		2.45@2.55
German	"		2.30@2.70
"Rosendale," 300 lbs.	"		1.05
Sand cement, 400 lbs.	"		1.55@1.95
Slag cement, imported.	"		1.65
Ceresine—			
Orange and Yellow	lb.		.12
White	"		.14
Chalk—Lump, bulk	sh. ton		2.15@2.25
Ppt. per quality	lb.		.03¾@.06
Chlorine—Liquid	"		.30
Water	"		.15
Chrome Ore—			
(50% ch.) ex-ship, N. Y.	lg. ton		24.00
Sand, f.o.b. Baltimore	"		33.00
Bricks, f.o.b., Pittsburg. M			175.00
Clay, China—Am. com., ex-dock, N. Y.	lg. ton		8.00
Am. best, ex-dock, N. Y.	"		9.00
English, common	"		12 00
Best grade	"		17 00
Fire Clay, ordinary	sh. ton		4.25
Best	"		6.00
Slip Clay	"		7.00
Coal Tar Pitch	gal.		.08
Cobalt—Carbonate	lb.		1.75
Nitrate	"		1.50
Oxide—Black	"		2.26@2.30
Gray	"		2.28@2.40
Smalt, blue ordinary	"		.10
Best	"		.20
Copperas	100 lbs.		.40@.45
Copper—Carbonate	lb.		.18
Chloride	"		.25
Nitrate, crystals	"		.35
Oxide, com'l	"		.19
Cream of Tartar—Crys.	"		.19¼@.19½
Powdered	"		.19¾@.20
Cryolite	"		.06½
Explosives—			
Blasting powder, A. 25 lb.	keg		2.50
Blasting powder, B.	"		1.25
"Rackarock," A.	lb.		.25
"Rackarock," B.	"		.18
Judson R.R. powder	"		.10
Dynamite (30% nitro-glycerine)	"		.13
(30% nitro-glycerine)	"		.14
(40% nitro-glycerine)	"		.15
(50% nitro-glycerine)	"		.16½
(60% nitro-glycerine)	"		.18
(75% nitro-glycerine)	"		.21
Glycerine for nitro (32 2-10° Be.)	"		.13¼@.13½
Feldspar—Ground	sh. ton		8.00@9.00
Fluorspar—			
Am. lump, 1st grade	"		14.40
2d grade	"		13.90
Gravel & crushed, 1st g	"		13.40
2d grade	"		12.90
Ground, 1st grade	"		18.00
Foreign, lump	"		8.00@12.00
Ground	"		11.50@14.00
Fuller's Earth—Lump.	100 lbs.		.75
Powdered	"		.85
Refined lump	"		1.25
Graphite—Am. f. o. b. Providence, R.I. lump.	sh. ton		8.00
Pulverized	"		30.00
German, lump	lb.		.01¼
Pulverized	"		.01½@.02
Ceylon, common	"		.03½
Pulverized	"		.04@.08
Italian, pulv.	"		.01¼
Gypsum—Ground	sh. ton		8.00@8.50
Fertilizer	"		7.00
Rock	lg. ton		4.00
English and French	"		14.00@16.00
Infusorial Earth—Ground.			
American, best	"		20.00
French	"		37.50
German	"		40.00
Iodine—Crude	100 lbs.		2.45
Iron—Muriate	lb.		.05
Nitrate, com'l	"		.01¼
True	"		.03½
Oxide, pure copperas col	"		.05@.10
Purple-brown	"		.02
Venetian red	"		.01@.01½
Scale	"		.01@.03
Kaolin—(See Clay, China).			
Kryolith—(See Cryolite.)			
Lead—Acetate, white	lb.		.07
Com'l, broken	"		.06½
Brown	"		.05½
Nitrate, com'l	"		.06½
" gran.	"		.8½
Lime—Com., ab. 250 lbs	bbl.		.70
Finishing	"		.80
Magnesite—Greece. Crude (95%)	lg. ton		6.50@7.00
Calcined	sh. ton		14.00@15.00
Bricks	M.		170.00
Am. Bricks, f o.b., Pittsburg	"		175.00
Magnesium—			
Carbonate, light, fine pd	lb.		.03¾
Blocks	"		.06@.09
Chloride, com'l	"		.01¾
Fused	"		.20

	Cust.	Meas.	Price.
Magnesium—			
Nitrate	lb.		$0.60
Sulphate	100 lbs.		.90
Manganese—Crude-pow'd 70@75% binoxide	lb.		.01¼@.01½
Crude, pow'd 75@85% binoxide	"		.01½@.02½
85@90% binoxide	"		.02½@.03¼
90@95% binoxide	"		.02¾@.05½
Carbonate	"		.16@.20
Chloride	"		.04
Ore, 50%, Foreign	unit		.26¾
Domestic	"		.30
Marble—Flour	sh. ton		6.00@7.00
Mercury—Bichloride	lb.		.77
Mica—N. Y. gr'nd, coarse	"		.03@.04
Fine	"		.04@.05
Sheets, N. C., 2x4 in	"		.30
3x3 in	"		.80
3x4 in	"		1.50
4x4 in	"		2.00
6x6 in	"		3.00
Scrap, f.o.b., Dillsboro, N. C.	sh. ton		25.00
Mineral Wool—			
Slag, ordinary	sh. ton		19.00
Selected	"		25.00
Rock, ordinary	"		32.00
Selected	"		40.00
Monazite—92%	"		140.00
Nickel—Oxide, No. 1	lb.		1.00
No. 2	"		.60
Sulphate	"		.20@.21
Oils—Black, reduced 29 gr.: 25@30 cold test	gal.		.09¾@.10¼
15, cold test	"		.10¾@.11¼
Zero	"		.11¾@.12¾
Summer	"		.09¼@.09¾
Cylinder, dark steam ref	"		.08¾@.10¾
Dark filtered	"		.11¼@.16¼
Light filtered	"		.14¾@.17¾
Extra cold test	"		.21¾@.26¾
Gasoline, 86° @ 90°	"		.16@.21
Naphtha, crude 68@72°	bbl.		9.60
"Stove"	gal.		.12
Linseed, domestic raw	"		.62@.64
Boiled	"		.65
Calcutta, raw	"		.85
Graphite, lubricating, Am. dry			
In oil			
Axle grease			
Wood grease			
Ozokerite	lb.		.10@.12
Paints and Colors—			
Chrome green, common	"		.05
Pure	"		.16
Yellow, common	"		.10¼
Best	"		.25
Silica Graphite, thick	"		.12
Thinned	gal.		1.15
Lampblack, com'l	lb.		.03
Refined	"		.07
Litharge, Am. powd.	"		.05½@.06
English flake	"		.08
Glassmakers	"		.07½
Metallic, brown	sh. ton		19.00
Red	"		16.00
Ocher, Am. common	"		9.25@10.00
Best	"		21.25@25.00
Dutch, washed	lb.		.04¾
French, washed	"		.01¼@.02
Orange mineral, Am.	oz.		.07¾
Foreign, as to make	"		.07¾@.08¾
Paris green, pure, bulk	"		.12
Red lead, American	"		.06
Foreign	"		.07¾
Shellac, "D. C."	"		.30
Native	"		.15
Turpentine, spirits	gal.		.40½
Ultramarine, best	lb.		.25
Vermilion, Amer. lead.	"		.14@.16
Quicksilver, bulk	"		.70
Foreign	"		.70@.90
White lead, Am., dry	"		.05¼
American, in oil	"		.06½
English, in oil	"		.07¾
Whiting, common	100 lbs.		.42
Gilders	"		.54
Zinc white, Am., ex. dry	lb.		.04⅝@.04⅞
American, red seal	"		.06½
Green seal	"		.07
Foreign, red seal, dry	"		.06¾@.06⅝
Green seal, dry	"		.07¼@.09⅞
Potash—Caustic, ord.	"		.04½@.05
Elect. (90%)	"		.06½
Potassium—			
Bicarbonate cryst	"		.08¼
Powdered or gran.	"		.14
Bichromate, Am.	"		.08¼
Scotch	"		.08½
Carbonate, hydrated	"		.04½
Calcined	"		.04
Chromate	"		.35
Cyanide (98@99%)	"		.27
Iodide, bulk	"		2.30
Permanganate, pure cr.	"		.11@.11¼
Prussiate, yellow	"		.14½@.15
Red	"		.37
Silicate	"		.06
Sulphide, com'l	"		.10
Quartz—(See Silica).			
Rosin—			
Com. strained (280 lbs.)	bbl.		1.65
Best strained	"		2.90
Medium	"		1.80
Salt—N Y com fine	sh. ton		2.00
N. Y. agricultural	"		1.50
Saltpeter—			
Crude	100 lbs.		3.50
Refined	"		4.25
Silica—Best foreign	lg. ton		10 00@11.00
Ground quartz, ord	sh. ton		6.00@8.00
Best	"		12.00@13.00
Lump quartz	"		2.50@4.00
Glass sand	"		2.75
Silicon—Carbide	lb.		.05

	Cust.	Meas.	Price.
Silver—Chloride	oz.		$0.65
Nitrate	"		.40
Oxide	"		.85@1.10
Slate—Ground, black	sh. ton		7.50@8.75
Ground, red and olive.	"		20.00
Sodium—Acetate, com'l.	lb.		.04¼
Bichromate	"		.06¾
Chlorate, com'l	"		.09@.09¾
Hyposulphite, Am.	100 lbs.		1.80
German	"		2.00
Nitrite, 96@98%	lb.		.08
Peroxide	"		.45
Phosphate	"		.02½
Prussiate	"		.12½
Silicate, conc	"		.05
com'l	"		.01
Sulphate, com'l	100 lbs.		.70
Gran., puri'd	lb.		.03
Sulphide	"		.01¾
Sulphite crystals	"		.02½
Tungstate, com'l	"		.35
Strontium—Nitrate	"		.08
Sulphur—Roll	100 lbs.		1.75
Flour	"		1.80
Flowers, sublimed	"		2.05
Talc—N. C., 1st grade	sh. ton		13.75
N. Y., Fibrous	"		8.00@9.00
French, best	100 lbs.		1.25
Italian, best	"		1.62½
Tar—Regular	bbl.		1.90
Oil barrels	"		3.75
Tin—Bichloride	lb.		.09½@.10
Crystals	"		.20
Muriate, 36°	"		.09
52°	"		.15
Oxide, white, ch. pure	"		.40
Uranium—Oxide	"		2.25@3.00
Zinc—Metallic, ch. pure	"		.09@.10
Carbonate	"		.15
Chloride	"		.05
Dust	"		.06¾@.07
Sulphate	"		.02@.02¼

THE RARE ELEMENTS.

Prices given are at makers' works in Germany, unless otherwise noted.

	Cust.	Meas.	Price.
Barium—Amalgam	grm.		$1.19
Electrol	"		5.71
Beryllium—Powder	"		5.95
Crystals	"		9.04
Nitrate (N Y.)	oz.		1.50
Boron—Amorphous, pure	grm.		.19
Crystals, pure	"		1.43
Nitrate (N. Y.)	lb.		1.50
Cadmium—Sticks	kg.		1.55
Sheets	"		2.83
Granulated	"		2.38
Powder	"		1.90
Calcium—Elect	grm.		4.28
Cerium—Fused	"		2.02
Nitrate (N. Y.)	oz.		1.25
Chromium—Fused, Elect.	kg.		5.95
Pure powder 95%	"		1.79
Chem. pure cryst	grm.		.20
Cobalt—(98@99%)	kg.		6.66@8.33
Pure	"		30.94
Didymium—Powd.	grm.		3.81
Fused, Elect.	"		5.47
Nitrate (N. Y.)	oz.		2.50
Erbium	grm.		3.09
Nitrate (N. Y.)	oz.		2.50
Germanium—Powder	grm.		33.32
Fused	"		35.70
Glucinum—Powder	"		5.95
Crystals	"		9.04
Nitrate (N. Y.)	oz.		2.75
Indium	grm.		3.57
Iridium—Fused	"		1.07
Powder	"		.95
Lanthanum—Powder	"		4.28
Electrol, in balls	"		9.04
Nitrate (N. Y.)	oz.		2.25
Lithium	grm.		2.38
Nitrate (N. Y.)	oz.		.60
Magnesium—Ingot	kg.		6.19
In wire or ribbon	"		9.99
Powdered	"		5.95@7.14
Sheet	"		9.04
Molybdenum—Fused	grm.		.15
Powder, 95%	kg.		2.62
Niobium	grm.		3.81
Osmium	"		.94
Palladium—Wire	"		.86
Sponge	"		62
Potassium—In balls	kg.		17.85
Rhodium	grm.		2.38
Rubidium—Pure	"		4.76
Ruthenium—Powder	"		2.38
Rutile—Crude	kg.		.43
Selenium—Com'l powder	"		26 28
Sublimed powder	"		35.70
Sticks	"		28.56
Silicium—Com'l	"		28.56
Chem. pure crystals	"		59.50
Amorphous	"		27.36
Sodium (N. Y.)	lb.		.65
Strontium—Electrol	grm.		6.19
Tantalium—Pure	"		3.57
Tellurium—Ch. p. sticks.	kg.		107.00
Chem. pure powder	"		83.30
Thallium	"		26.18
Thorium—Nitrate 49@50% (N. Y.)	lb.		5.00
Titanium	kg.		47.60
Uranium	"		190.40
Nitrate (N. Y.)	oz.		.25
Wolfram—Fused, elect.	kg.		238.00
Powder, 95@98%	"		1.43
Chem. pure powder	"		6.43
Yttrium	grm.		3.33
Nitrate (N. Y.)	oz.		2.75
Zirconium—Com'l	kg.		119.00
Nitrate (N. Y.)	oz.		.75

NOTE.—These quotations are for wholesale lots in New York unless otherwise specified, and are generally subject to the usual trade discounts. This table is revised up to Feb. 16. Readers of the ENGINEERING AND MINING JOURNAL are requested to report any corrections needed, or to suggest additions which they may consider advisable. See also Market Reviews.

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Lot 3, Con. 4, Denison Township, containing	315
Lot 4, Con. 4, Denison Township, containing	315
Lot 5, Con. 4, Denison Township, containing	319
Lot 6 Con. 4, Denison Township, containing	318
Lot 12, Con. 3, Graham Township, containing	274
Lot 12, Con. 4, Graham Township, containing	290
Total	2,699

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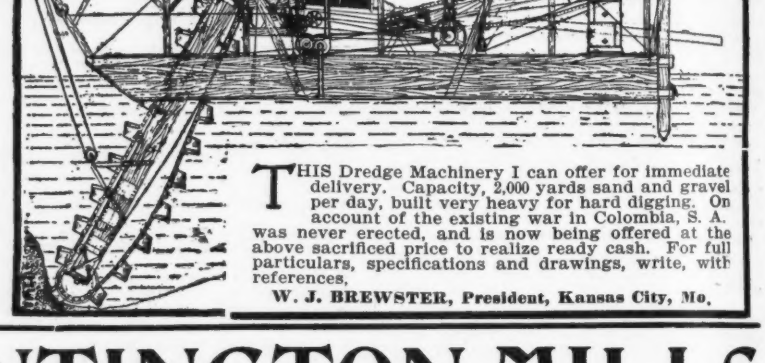

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1938 WANTED—CHEMIST, TECHnical school graduate, with some experience. Fully capable of making accurate analyses of ores, acids and chemical products. Salary to begin, $60 per month, if engagement is made. Applicants will be given a preliminary trial of a few days to determine ability. Give reference, experience and full particulars. Address LABORATORY, Engineering and Mining Journal.

1939 WANTED — RAND DRILL man, must be capable of running compressor. State experience and wages required. One acquainted with Mexico and language preferred. Address DRILL, Box 11, Engineering and Mining Journal.

1940 WANTED — YOUNG GRADUate, to take charge of undeveloped bituminous coal lands in West Virginia and open mines. Address BITUMINOUS, Engineering and Mining Journal.

1941 WANTED—COMPETENT BIT setter; also good diamond drill runner. Give full particulars of experience, etc. Address BOX 19, Engineering and Mining Journal.

1942 TECHNICAL GRADUATE, young single man, wanted as surveyor in a Mexican mine. Principal requisites, honesty and intelligent application. Salary, $150 Mexican. Give full particulars and references. Address SURVEYOR, Engineering and Mining Journal.

1943 WANTED. AN ELECTRO METallurgist capable of designing, superintending the erection and running of a large electrolytic copper refining plant east of Chicago. A good salary and permanent position for a man with the necessary experience. Answers will be considered confidential if desired. Address ANODES, Engineering and Mining Journal.

1944 WANTED, BY MAY, FOR Mexico, young graduate willing to make himself generally useful to Superintendent at a low salary for the first year in order to gain experience and qualify for advancement. Some knowledge of office work and either assaying or surveying indispensable. Spanish desirable. Address, stating qualifications, references, and salary required, MEXICO, Engineering and Mining Journal.

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Advertisements under this heading will be charged only 10 cents a line each insertion.

AN EXPERIENCED SMELTER DEsires position as superintendent or general foreman of copper works. Sixteen years in charge operating and building blast and reverberatory furnaces. Good reason for leaving present position. Address EXPERIENCED, Engineering and Mining Journal. No. 18,969, Mar. 23.

CHIEF ACCOUNTANT AND LOCAL Treasurer of large mining company desires new engagement; 7 years with same company, stands well with employers, and will give best references. Age 30, married, strictly temperate, 10 years experience, including traffic matters, purchasing and office management. Qualified to audit or organize office systems, and fitted by experience, personal habits and ability for work of confidential or responsible nature. Educational needs of two children prompt change. Address L. O. D., Engineering and Mining Journal. No. 18,980, April 13.

METALLURGICAL CHEMIST AND assayer desires a position. Graduate, thoroughly capable; experienced in all branches of the profession; references West and East. Address T., Engineering and Mining Journal. No. 18,965, Mar. 23.

CYANIDE EXPERT, NOW IN MEXIco, desires location in the States. Technical graduate, 27, six years' engineering experience. Capable of designing, erecting and operating plants of any capacity. Best recommendations. Salary, $150 per month. Address CIANURO, Engineering and Mining Journal. No. 18,976, March 30.

POSITION WANTED BY A FORMER student of the University of Virginia, who has had five years' experience as assistant chemist in the laboratory of a large mineral company. For the past year has been doing all the civil and mine engineering work in the opening up of a new mine. Has had six years' practice as civil engineer in railroading, city water supply and city works. Has complete set of field and draughting instruments. Single, age 31. Best references. Address G. O. C., Engineering and Mining Journal. No. 18,973, March 30.

MINING ENGINEER AND METALlurgist, will superintend or manage a smelter, mill or mine. Twenty years' experience in mining and treatment of copper, gold, silver-lead. References. BOX 734, Boise, Idaho. No. 18,974, March 23.

MINING ENGINEER AND METALlurgist is open for engagement. Technical graduate; has had varied experience as chemist, assayer, surveyor and mine superintendent. Practical miner, willing to go anywhere. References given. Address LAKE, Engineering and Mining Journal. No. 18,977, March 23.

MINING ENGINEER, GRADUATE of one of the best mining schools, desires position as mine superintendent or assistant superintendent. Familiar with Colorado mining and milling practice. Can assay, survey, keep books and speak Spanish. Address H., 725 Kittredge Bldg., Denver, Colo. No. 18,978, April 6.

CHEMIST AND ELECTRO METALLURgist, having had experience in Europe and America, desires position with a chemical refining or construction company, preferably with an electrolytic copper or nickel refining works. Best references furnished. Address K W., Engineering and Mining Journal. No. 18,979. March 30.

ELECTRICIAN — YOUNG MAN (30), large practical experience in installation and operation of all kinds electrical apparatus, desires a position where ability and strict attention to business will be appreciated. Engineer's reference. Distance no barrier. Address ELECTRICIAN, Engineering and Mining Journal. No. 18,981, March 23.

MINING AND MECHANICAL ENGIneer open for engagement. Has had lengthy practical experience in designing, constructing and operating large plants in Mining, Milling and Smelting operations. Also experienced in management and practical operation of Mines, etc. Training and ability of highest order. Will accept position outside of United States, if desired. Address MECHANICS, Engineering and Mining Journal. No. 18,982, April 12.

ELECTRO-REFINER AND METALlurgist will be open for engagement June 1. Eight years' experience. Has designed, erected, and is now running electrolytic copper refinery. Reference present engagement. Address CATHODE, Room 923, 253 Broadway, New York. No. 18,983, March 30.

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Space under this head is sold at the uniform rate of $1.15 an inch, each insertion; minimum charge, $1 15 a week.

ADAMS MINING COMPANY,
ROOM 66, LACLEDE BUILDING,
ST. LOUIS, March 18, 1901
DIVIDEND NOTICE No. 52

A dividend of Five Cents per share has been declared by this Company, payable April 15th, to all stockholders of record March 30th 1901
The books for transfer of stock will close March 30th and open April 16th.
JAS. J SYLVESTER, President.
W. W. SYLVESTER, Secretary.

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Transfer books will be closed March 30th and reopened April 22d next.

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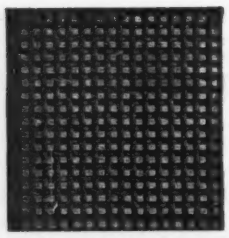
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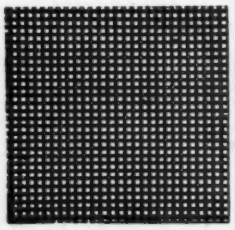
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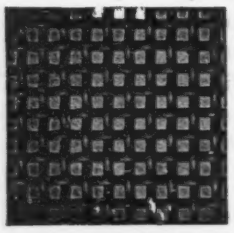
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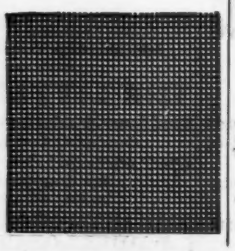

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The time for deposit of the stocks of the various companies to be included in the United States Steel Corporation expired on March 20th, and it is announced that more than the required amount of stock of each company has assented to the consolidation. The time has, however, been extended to April 1st. The organization of the big company and the arrangement of its plan of operation are next in order; but apparently this will take some time. Whether the several companies will be kept alive or whether their organizations will disappear, is not yet known, or at least made public.

An addition to the properties absorbed by the company is the Lake Superior Consolidated Mines, better known as the Rockefeller Company, which owns some valuable iron properties in the Lake Superior Region and a large fleet of Lake vessels. These properties have been capitalized at $30,000,000, and the purchase has been generally expected.

So-called "popular" articles are not always as instructive as many readers are inclined to believe. Thus a correspondent in the Lake Superior country writes us as follows: "Mining men here are having a good laugh over an article on 'The Mining of Iron' in the March number of a well-known magazine. The illustrations are very artistic; so much so, that their value as portrayals of fact is lost. The article itself is packed full of misstatement and ignorant error as it can well be."

This is to be regretted, since a really popular article by an expert can be made to convey exact information and not misinformation, as too many of them do. The trouble is that the work is too often given to some one whose only qualifications are the ability to get striking pictures and to write smoothly on a subject of which he has no real knowledge whatever.

The anthracite miners' convention which assembled last week has adjourned, leaving the question of further action with the officers of the Miners' Union. There is no statement of new grievances, but the offer of the companies to continue the advanced rate of wages for another year did not meet the views of the leaders. It is not claimed that a higher rate should be conceded, the only point raised being that the companies had refused to acknowledge the Union or to enter into conference with its representatives. It is to be hoped that a better feeling will prevail, and that a strike will not be ordered on this point. It is admitted that the miners in the anthracite region are doing better than they have done for a long time past, and a strike, the sole purpose of which is to secure recognition of the Union, will hardly receive popular sympathy and support. It will be regarded—and justly—as an unreasonable and uncalled-for movement, based on no solid grievance. No strike of this kind in the anthracite country has ever succeeded, and the chances will be against this, also.

During the last dozen years references in the "Engineering and Mining Journal" to the doings of the Palmarejo Company operating in Chihuahua, Mexico, have been frequent. English shareholders have often been warned of the extravagant and careless management, but in spite of this some very large sums of money have been put up from time to time. One of the last things done by the company was to oust the director and manager who were original promoters, and to put the management of the company into the hands of the new chairman, who is by profession an accountant. This gentleman has just returned from the mine and from a general tour of America, and he reports that another £15,000 should be raised in order to meet necessary expenditures on capital account, and that the whole property should be examined and reported on by a competent engineer. Probably at some future date the shareholders will really know what their property is worth and how it is that estimated monthly profits never yield any actual dividend; but in the meantime they will have to advance some more capital, it appears.

We have to differ from some of our electrical contemporaries, who have lately been commenting upon the freedom which most American manufacturers allow to visitors, and urging them to close their shops, at least to foreigners. The reason given is that in these times of close competition too much opportunity is given to our rivals to study our methods, and that we enable them thereby to imitate us to our injury and their own profit. We think this suggestion a decided mistake, and believe that no one is injured by the more liberal policy which has been the general rule. We can afford to let foreigners see what we are doing, and if they do pick up some ideas, we can well afford to let them do it. It takes not only ideas but American quickness and intelligent American mechanics to carry them out. The wholesale introduction of our methods in a German machine shop, for instance, would cause only general confusion. American tools have not done the work that was expected of them abroad, because the workmen to use them were not

available, and at least a generation of training will be needed to employ them to the best advantage. We are quite willing to sell our tools and machinery to our rivals; and the observations of a visitor will be of far less benefit than such purchases might be. The liberal policy is the best in every way.

To a combination of the State of Maine and the City of Lowell was due the financial success of the brief but brilliant career of the Rev. Mr. Jernegan and his gold-from-salt-water company. From a similar combination we are now promised an achievement which is to do more than coin the salt sea waves—it is to start an industrial revolution. According to recent press despatches from Augusta, Maine, a gentleman from Lowell is in that city organizing a company to manufacture coal. It is to be made from "mineral products which are widely and abundantly distributed," and is to be turned out at a "cost much less than that of coal in the States where it is mined." Whether the new company will utilize the sea water which Jernegan's works left is not stated. The first plant is to be a modest one, making only 10 tons of coal an hour; but who can doubt that this will soon be multiplied by 1,000 at least? In view of the impending flood of cheap fuel the discussion of miners' wages and strikes seems idle. When every man can buy from the new company license under its patents to make his own coal, there will be no use for miners, while Standard Oil and United States Steel will be nowhere beside the new corporation. It is just possible, however, that the purpose of the company will be fulfilled when its promoter goes to enjoy life—like Jernegan—in Paris or some other foreign city.

American methods are finding their way into the mineral traffic in Great Britain, which has been a stronghold of conservatism. The results secured here have commanded the attention of English managers, however. A correspondent of the London "Times" calls attention to the results of the new policy of the Lancashire & Yorkshire Railway Company in working their goods traffic. Though in the past half-year this company hauled 33,000 tons of goods more than in the previous half-year, the goods train-mileage was 133,000 less, so that the goods receipts per train-mile improved no less than 3½d. The present practice of the Lancashire & Yorkshire Company, which is probably the result of appointing an engineer as general manager, is to work their coal traffic in trains consisting of 60 loaded wagons, while empties are taken in trains of 120, these figures being double the corresponding figures on most other English lines. Of course, very powerful engines are required to work such heavy trains, and it seems that the reform has been resisted both by the employees and the coal owners, while the Board of Trade did nothing to support the scheme. Mr. J. W. Aspinall, of the Lancashire & Yorkshire road, has been a careful student of American railroad practice, and the increase of train-loads is doubtless a result of his observations. The road has a very large coal traffic.

The many old pupils of Professor Phil. Weisbach will be very sorry to hear of his death, which took place on February 26th, after a few months' illness. Professor Weisbach was born in 1833, and was the son of Professor Julius Weisbach, the well-known mechanic and mathematician of the Freiberg Mining School. Philip Weisbach was educated at the gymnasium and at the Universities of Leipzig, Berlin, Goettingen and Heidelberg. In 1857 he was appointed assistant to Breithaupt, then professor of mineralogy in Freiberg; in 1858 he was made lecturer in mineralogy, in 1863 he became professor of physics, and in 1866 he succeeded Breithaupt as professor of mineralogy. This double office proved too great a strain, and after a few years Dr. Weisbach gave up physics and devoted himself entirely to mineralogy. This was his favorite study, and it was here that he made his reputation. He possessed a peculiar faculty for distinguishing minerals by inspection; some of the minute distinctions which he called attention to, and by means of which certain minerals can be identified, are still unnoticed in the text-books. His tables and system for the determination of minerals remain to the present day unsurpassed, in the belief of many. Professor Weisbach discovered and named a number of minerals—Argyrodite, Troegerite, etc. By his old pupils he will always be remembered as one who imparted a peculiar charm to his favorite subject by his original methods and close observation.

COPPER STOCK SPECULATION.

While mining stocks generally have declined on the European exchanges during the past few months, copper shares have been a marked exception, and at the present time quotations are higher than ever before known. The demand for copper in Europe has shown a considerable decrease from the high point of 1900, and London prices have fallen somewhat, and would have fallen further had it not been for the firmness in New York quotations. This has not affected the copper companies' stocks, however, and their quotations have risen instead of falling with the metal. The leading European copper stock is Rio Tinto, in which there is a very large speculative interest in Berlin and Paris as well as in London. The latest London quotation for Rio Tinto common stock at hand is in round figures $312, the par value of the shares being $25. This is by far the highest price ever made for this stock, and is the culmination of an upward movement which has extended over half a year. As the dividend for last year was $21.25 per share, the return on the present quotation would be about 6¾ per cent.; but the prospect is that this rate cannot be maintained for the current year.

We might compare this quotation for Rio Tinto with the current figure of $855 for Calumet & Hecla. On the basis of last year's dividends this stock returns about 8¼ per cent. on the present selling price, or 1½ per cent. more than its European rival. It may be urged that the Rio Tinto is an exceptional property, since it has been worked almost from pre-historic times, and there are as yet no signs of the exhaustion of the ore deposits. Nevertheless there is no doubt that the present quotation is determined rather by speculation than by the prospective dividends or probable value of the property. In the case of other well-known copper properties held abroad, the return is higher. On such stocks as Tharsis, Mount Lyell, Cape Copper and Boleo, the return, even on present high quotations, ranges from 10½ to 20 per cent., on last year's basis.

Whether the high level in Europe can be maintained is doubtful, as prices are beginning to fall. In this country, however, we seem to be at the beginning of a boom of a very active kind in copper stocks.

INFORMATION FOR STOCKHOLDERS.

At the annual meeting of the Osceola Copper Company in Boston last week, some of the stockholders present actually began to make remarks—something unprecedented in a copper meeting—and one of them propounded the question why the annual report did not include statements of the quality of copper produced, and its average cost and selling price. To this President Bigelow replied that the directors withheld such information because its publication was considered unwise. The answer seems to have been accepted without further question, which is the most remarkable part of the whole proceeding. Without going again over the whole subject of publicity—which has been discussed frequently in our columns—it seems to us that matter ought to have been pressed, and that some of the stockholders should have insisted upon what are clearly their rights to information. From the point of view of directors who speculate in the stocks of their companies, it is "unwise" to give information which would give the public an equal opportunity with themselves. It is, from another point of view, either a confession of mismanagement or else a denial of the rights which every part owner of a property ought to have under the law. Every investor is entitled to know whether his property is being properly managed; what his actual position and prospects are; whether it is making money or not, and why results are obtained. He should have the means furnished him for comparison with other similar properties in order that he may form some intelligent opinion as to the way in which the directors—who are simply his agents—are conducting his affairs. The denial of such information ought not to be within the power of those agents.

One of the important services which the Massachusetts Railroad Commissioner rendered in its early days was the requirement of full reports of traffic and operations from all railroad companies in the State, and the publication of such reports. The result was not only the satisfaction of stockholders but a general improvement in methods of management. In a short time it became difficult for directors or officers to cover up poor methods or dishonest work. They were called to account by stockholders and in more than one case the result was a general reform and the dismissal of incompetent or dishonest managers. The results were so good that when railroad commissioners were appointed in other States most of them followed the Massachusetts precedent.

Now we do not mean to say that publicity alone will put a stop to all mismanagement and dishonesty in company management. It will not, but it will go a long way toward doing so. Publicity is the protection of the stockholder who is an investor—and indeed of one who is a speculator also. When it is not enforced by law it should be demanded by stockholders.

Much of the blame of the system of secrecy adopted by many companies is the fault of the stockholders themselves. Where those who favor a reform are not strong enough to enforce a change in directors, they can make it so uncomfortable for the managers that they will be willing before long to give way. A single stockholder of the New York, New Haven & Hartford Railroad Company for years did more—as a competent authority said—to protect his fellow stockholders and the people of Connecticut than the Legislature and all the courts of the State. He did it simply by asking questions—and by keeping on asking. Others can do the same, and they will find the results excellent in the end.

NEW PUBLICATIONS.

"Hints on Amalgamation and the General Care of Gold Mills." By W. J. Adams. Chicago; "Modern Machinery" Publishing Company. Pages, 112; illustrated.

This book is a series of notes, based upon the author's experience in the operation of gold mills, chiefly in California. It is not a complete treatise, nor does it claim to be one, but is a record of observations based both on successes and failures. It is intended to help the millman, as well as the beginner, by showing him what others have done, why they have done it, and why they succeeded or failed. It has chapters on the general arrangement of mills, on the care of quicksilver, on cleaning up, on retorting and smelting, on concentration, and on sampling. It contains some useful hints, generally given in a plain and practical way.

"A Compendium of Gold Metallurgy," Second Edition. By E. M. & M. L. Wade. Los Angeles, Cal.; published by the author. Pages, 144; illustrated. Price, 75 cents.

This little book, which is of a size convenient to carry in the pocket, has found so much favor among miners and prospectors that a revised second edition is needed. It is not intended as a text-book, nor a treatise for experts; its object is to give a general idea of the scope and application of the various processes used for extracting gold from its ores. This is done in a way to meet the requirements of the practical miner and prospector. The book covers this purpose very well, and contains a great deal in a small space. An appendix contains a digest of the United States mining law, and also of the desert land and water right laws.

"American Engineering Competition." A series of Articles Resulting from an Investigation made by the "Times," London. New York and London; Harper & Brothers. Pages, 140. Price, $1.

The letters or articles on American competition with English manufacturers, which are here collected in a volume, appeared in the London "Times" at intervals between the spring of 1900 and the spring of 1901. They attracted universal attention in England, calling the attention of manufacturers to conditions, of which but few of them appreciated the importance, or even the existence. Many British engineers and iron-masters felt aggrieved, and considered that too favorable an opinion of American practice was expressed. Among those who protested may be mentioned the venerable Sir Lowthian Bell, who was not at all inclined to admit the superiority of American practice. No one, however, has seriously attempted to controvert the main position taken by the "Times," that the time has arrived when British manufacturers must take into serious account the competition of American iron and steel works, in making any forecast of future trade. As an expression of advanced British opinion the articles are well worth reading.

"A Preliminary Report on a Part of the Iron Ores of Georgia. Polk, Bartow and Floyd Counties." By S. W. McCallie, Assistant State Geologist. Atlanta, Ga.; State Printer. Pages, 190; illustrated.

This volume forms Bulletin No. 10 of the Geological Survey of Georgia. The survey has been making a careful investigation into the iron ores of the State, and this volume is the first result of the work, which is still in progress. The book treats of the varieties of iron ores and their impurities; the geographical and geological distribution of the brown iron ores; their mode of occurrence and origin, and the methods of mining them. The concluding chapters treat in detail of the deposits found in three counties mentioned in the title. The only ores of commercial importance found in these counties are limonite and hematite; the former, commonly called brown ore, is far more abundant than the latter, and its discussion occupies most of the report. The deposits are of much commercial importance, and Mr. McCallie's excellent monograph is very acceptable, and should be of much value. His work has been carefully done, and the maps, geological sections and other illustrations add to its interest.

BOOKS RECEIVED.

In sending books for notices, will publishers, for their own sake and for that of book buyers, give the retail price? These notices do not supersede review on another page of the Journal.

"Internal Commerce of the United States during the Calendar Year 1900." Prepared by the Bureau of Statistics of the Treasury Department. Washington; Government Printing Office. Pages, 136; with map and diagrams.

"Maryland Geological Survey. Allegany County." Prepared under the Supervision of William Bullock Clark, State Geologist. Baltimore; the Johns Hopkins Press. Pages, 324; illustrated, and with Atlas accompanying.

"Review of the World's Commerce During the Year 1900." Prepared by the Bureau of Foreign Commerce, Department of State. Washington; Government Printing Office. Pages, 252.

CORRESPONDENCE.

We invite correspondence upon matters of interest to the industries of mining and metallurgy. Communications should invariably be accompanied with the name and address of the writer. Initials will only be published when so requested.

Letters should be addressed to the MANAGING EDITOR.

We do not hold ourselves responsible for the opinions expressed by correspondents.

The Big Five Mining Company.

Sir: As a constant and interested reader of the "Journal," I was surprised to read in the issue of March 9th your reply to an inquiry about the Big Five of Boulder County, Colorado. This would infer that investments in the stock of that company are worthless. From my four years' experience with the Big Five, it appears to me that your correspondent has not informed himself, as he could do, by personal examination of the large bodies of ore already exposed. Believing that you desire to accord strict justice to all legitimate mining enterprises, I take the liberty of writing you why I disagree with your correspondent. If I am wrong, I think you owe it to the reading public to show that the Big Five is not what its managers represent it, and its stockholders believe it to be; for I believe this company has a larger number of stockholders scattered all over the United States than any mining enterprise in Colorado.

In the spring of 1897 I attended a four days' session of the American Water Works Association in Denver. For some months I had been reading the prospectus and literature issued by the Big Five, and it appeared to me to promise too much, but, being so near, I concluded to visit their mines and see for myself, which I did, finding them located at Camp Francis, 18 miles from Boulder. At that time Francis was reached by an 18-mile wagon road up the mountains, but the Colorado & Northwestern Railway was then surveying a 30-mile road to reach this district. It was to build this in view of the traffic which would come from the Big Five and other mines in close proximity—among others the Utica, with 500-ft. shaft, owned and operated by a Philadelphia syndicate, and a large group of properties being developed by Secretary of Treasury Gage, and his brother-in-law, Col. Brainard. This road has since been built and is now in operation. At that time the tunnel system, started to reach eventually the Timber Line, Ni Wot and Columbia mines, was only partly through the Adit and Dew Drop mines (about 1,200 ft.). Now there is about 5,000 ft. of double-track tunnel in the main line and 3,000 ft. in the north branch to reach the Ni Wot and other mines lying near Ward. In both the Adit Tunnel and the Dew Drop (a parallel and shorter one driven at greater altitude), the tunnels were being driven on the veins, and samples taken by myself at breast of each tunnel, and assayed in Denver, give one about $40, the other some $60 in gold to the ton. The character of work and machinery was first-class and from what I could learn from the district's past history, I believed the properties a good prospect; the books of the company were open to my inspection, and the cashier of the First National Bank of Denver told me that the management were people of small means, but reliable, and that his bank's business with them had been very satisfactory. Some two years later a very able and conservative mining engineer for several large syndicates, who was examining a property in Boulder County (which he turned down) inspected the tunnel and works of the Big Five for me. He reported that he was much pleased with the character of the work and the first-class machinery used, and what particularly pleased him was the fact that the management was not making the mistake so many mining enterprises had made, of trying to take out ore to pay dividends before sufficient development had been done. His time did not permit of his sampling the ore bodies exposed, so he expressed no opinion on the values in sight.

After an expenditure of about $300,000, two of the mines are now all ready and one more nearly so, to take out ore to pay dividends; this only awaits the adjustment and a few changes at the large concentrating mill built at the mouth of the tunnel. All this work has been done without creating any debt, and, I think, shows good judgment and fidelity by the management.

By the company's method of placing stock the large commissions, usually paid for floating mining stocks, have been saved to the stockholders and given them that much more money for development. Another good feature has been that the stock has been offered on the instalment plan. As the tunnel could only be driven so fast, it was only necessary to have the stock paid for as money was needed, and in this way people of moderate means who could not make much of a cash investment could do so if allowed to pay it in 30 to 40 monthly payments. I believe the Big Five was the first to sell stock in this way, and its plan has been since followed by other mining syndicates. Parties purchasing 10,000 to 20,000 shares of stock were offered a trip to the mines, and any purchaser, after a visit to the mines, if not satisfied with the investment, could have the money refunded with 6 per cent. interest. The management never claimed to know what the mines would eventually produce, but have weekly kept the stockholders posted as to the progress of the work and what many assays of the ore at various points showed, as well as the returns received from carload lots sent to the smelters. The tunnel which was started to reach the Ni Wot vein at a depth of 700 ft. has recently reached this vein, and a number of car-loads of ore have been shipped from the vein, drifting on the ore, to smelters and mills, returns from which we expect at an early date.

At the annual meeting of Big Five stockholders last September, the company was asked for an option on its property, price to be paid, $2,500,000, when it was a well-known fact that only about $300,000 had been expended. This would look as though there were capitalists that believed the properties capable of paying a dividend. A majority of the stockholders purchased stock for a permanent investment and were not in favor of selling at even this great profit. One feature that commended itself to me was that there are no large stockholders to freeze out the little ones, and that it would be quite difficult to buy a control, the stock not being listed and being in the hands of small holders all over the country.

My confidence in the ultimate profitable production of these properties has led me to invest in the stock of every mine which the Big Five have placed since my visit. One reason for which is more ably set out by Fitz Mac (a writer of some note in the Western mining districts) in an article in the "Mining World" of February 28th, a copy of which I inclose under separate cover.

I trust that you will have your correspondent make a more thorough investigation of this company, and, if he has been mistaken in his conclusions, that you will publish a correction of the statement to which I take issue.

Fred. Crosby.

Brookline, Mass., March 15, 1901.

AN AUSTRALIAN MINING EXPOSITION.—Arrangements are being made to hold a mining exposition at Bendigo, Victoria, in November next, to commemorate the 50th anniversary of the discovery of gold in Australia.

MINING AFFAIRS IN THE PHILIPPINES.

Written for the Engineering and Mining Journal by "Manila."

There are numerous changes occurring in the mining situation in the Philippines. Your correspondent finds that the improvement in the mines, the additions of machinery, and the introduction of new and modern machinery are taking place constantly. Among some of the first mines to be established under the new order of things in the Philippines, much of the work was done by hand. The miners were furnished with crude wooden tools, often only pointed bamboo sticks, while every operation was performed in a costly and tedious manner. The introduction of new types of mining tools and machinery, and the passing of the control of many of the larger and richer mines into the hands of Americans or their representatives, have resulted in many changes for the better in the mining situation in the new Philippines. Then, again, many new mines have been discovered, and instead of the mining operations being limited to the working of a few mining properties on Luzon, Negros, Panay and Mindanao, paying mines are running in about 15 of the various islands of the Philippine archipelago. The improvement in shipping of ores from island to island for purpose of smelting or working, and the advent of commission houses for buying ores or transportation to other countries have also aided to give an impetus to the mining interests of the country. Another feature is the labor question, which at first was confined to the employment of natives or coolies. At present many Americans and other foreigners are engaged in the mines with the result that a higher class of intelligence is operating with perceptible results in the products.

Taking first the question of new mines, these may be counted up to quite large figures. In fact there are from 12 to 15 new mines now in operation which have been discovered and worked since the last review. Every month finds a new mine of some description opened in one of the islands. Some of these new mines are paying well, while a few of them are hardly making expenses. The paying mines are the copper, lead, silver and mica. The gold mines, although rich in most instances,

MINERS CROSSING A RIVER IN THE PHILIPPINES.

do not appear to be making very liberal returns for the owners. There are now about 20 gold mines in operation throughout the islands of the Philippine group, and it is very difficult to decide whether or not the returns are profitable. All we can judge from is that the owners of several of these mines who were consulted by your correspondent remarked to the effect that they were not making money as yet, but that the indications were that when certain operations were finished, such as the improvements of the plant, the putting in of machinery, and the changes of various methods of work, that the profits would be large. All of the proprietors have made some money, but the returns have not been liberal. The iron mines have not paid well for the reason that in most instances the operations have not been conducted properly. There has been mismanagement in iron mining, and the result is that they are no further advanced than a year ago. The coal mines are doing well and new mines are being opened constantly. The demand for coal is good and the output is sold as fast as mined.

The Balanga Mine is now in operation and is paying well, as are also a number of other mines for producing coal in the vicinity. The coal mining property in this locality is said to be under consideration for sale to a large mining syndicate of Hongkong. The coal is of good quality and compares favorably with Australian. As fast as new mines are opened in this locality companies of soldiers are provided for guards, for the Government is very desirous of encouraging the mining interests as coal is much wanted in the Philippines. The prices rule very high and one sees consumers buying it in little bags. Foreigners are arranging to erect extensive works for handling the coal, and evidently the output will be considerable and the coal markets of the country will be more freely furnished than in the past. Since the arrival of so many Americans, industries have been started which have consumed coal, and at the same time the steamers which have been put into service for freighting between ports of the islands, have used a large proportion of the available coal. The coal from foreign countries is very high in price, whereas the native coal sells at prices equal to domestic values of coals in America and is just as good as the imported.

The copper mining interests of the Philippines are certainly paying good returns to the owners. Very many of these mines have been opened recently. Since my last letters the changes have been numerous. Your correspondent lately visited the leading points where copper is mined and hardly recognized some of the mining plants. A year ago, and in some cases, only four months ago, the copper mines were operated just as they were conducted 100 or more years ago. I saw Filipino, German, English, Spanish, Chinese and occasionally soldiers mining for copper on the ancient plan of heating the quartz by burning fuel on the rock, so as to soften it. Then the copper secured was run into little stone vessels. In other places they smelted the ores in small furnaces, using for an air blast bamboo pipes and large wood cylinders with pistons, worked by a dozen men. They had no tools or machinery of any sort. The products were small and imperfect. But little money was earned by the mines and many of the miners went out of business in disgust. But some of them held on and finally secured tools and machinery with which to work. Some of the machinery had to be hauled from the coast in pieces on the backs of pack mules. The expense of getting the machinery from the point of making it, in America, England or Germany, to the point of service at the mines was, of course, high, but in all cases where the equipment has been put in and operated, the mines are doing an exceedingly good business and making much money. I conversed with the owners of several copper mines who informed me that they were earning good profits with the chances good for further improvement. They had been to considerable expense in getting the mining outfit but were now making money.

Some of the shipments of copper by these mining companies have netted $135 to $150 gold per ton. The writer saw one shipment ready of about 60 tons, which the company estimated would net about $120 per ton. The stock of this company is being sold freely for the purpose of erecting new machinery for conveying and hauling. In this mine they are obliged to transport some of the ores from the mine to a smelter which is situated some distance away.

Some of the companies have several mines, and in most instances of this sort I found that where the mines were operated on the old Filipino plan by native bosses and workmen the profits were very low as compared with those secured by the same company from mines in which new machinery had been put in and which were operated under American overseers and trained miners. There is evidently a good future for the copper mines of Mindanao, Negros, Panay, and Southern Luzon.

There has been considerable accomplished in the line of miscellaneous mining. For instance the soapstone miners are doing quite a business, for the reason that the new order of things in the building line is compelling the contractors to use considerable soapstone for fireproofing stuffs in woodwork and house trimming. This soapstone exists in large quantities in the clay beds of the islands. The low swampy lands of the southern islands are particularly notable for the clayey products and at some of the pottery works where these clays are utilized, they have started into mine for the soapstone because of the increased demand for the article. They go to a depth of about 60 ft., where they strike the stratum of soapstone usually just below the clay deposits. The soapstone is removed in cubes and these cubes are sent to the trade in this form, each cube being of convenient size for handling. The cubes are then cut into the desired shapes. The limestone quarries are also improving all through the islands. When the writer first arrived the only lime secured from the immense deposits throughout the archipelago was the limited lot required for domestic purposes. Possibly there was one mine for each island, except the larger ones, on which probably a dozen or so of the mines might be found in working order. At the present time there are hundreds of these quarries in operation on all of the islands. One can hardly go far without seeing lines of carts hauling white lime from the interior to a seaport for shipment. There was formerly little lime exported, whereas at the present time shipments are made to Japan, China and other countries. The limestone is mined through tunnels excavated in the hill sides and is hauled to the works. Much of the lime is used in making whitewash. Some of it is used in masonry and some for packing with certain vegetable and fruit products which are packed in the islands for shipment abroad, the lime serving to keep off insects, etc.

Mining for fire-clay has also received a start under the order of American building rules in the Philippines. Formerly there was no fire protection rules or sanitary regulations and the houses and systems of drainage were built as one desired, regardless of conditions of health and comfort. To-day the Americans compel the building contractors to regard the laws of health and fire protection with the result that fire-clay materials are in great demand for the purpose of putting in fireproof portions. The clay is also in demand for the making of pipes for drainage. The consequence is that the miners of clays are exceedingly busy. They have no improved tools or equipments with which to operate and the progress is slow, but as I understand from personal interviews, they are earning good profits on their investments.

The oil wells are also paying, and one might go down through the entire list of mining operations in the Philippines and discover that in most instances the money invested in the equipment and the time expended, are all bringing in better results than was anticipated.

Another point for observation in the review of progress of mining interests in the Philippines concerns the recent advancements in the mode of furnishing mining concerns with machinery and tools. At first one could not buy a machine or tools for use in mines. I know of many mining parties who were willing to pay any prices for the required machinery and tools but were unable to secure them. At the present date there are a number of places in Manila and Iloilo where one can place his order for mining machinery and in many instances can buy the tools out of stock. Boilers and engines for power plant, conveying machinery, blast furnaces, ventilating devices, lights, wires, cables, etc., may also be bought, and strange to say the prices are not very high, as one might suppose. The fact that these fittings can be secured so near to the places of mining is a great event in mining history of the islands, and the effect is noticed in the recent impetus given to the mines.

Another problem for consideration as time passes and changes are made, is the question of the ladrones or freebooters, who for generations have looted and burned mining and other properties besides, in many cases, killing the owners. There are too many American soldiers in the islands now to permit any of the former days of looting and killing

to reoccur. Only the isolated mines are in any danger, and according to recent reports hardly a miner has lost his life during the past three months through ladrones and very little property has been looted. The days of the bandits of the Philippines are practically at an end and mining can be considered safe almost anywhere, although for general protection, all mining parties should go armed, and it would be wise to have some sort of protection at the works. At most of the works where foreigners are in charge, they have one or more field pieces ready for use, besides small arms, but to my knowledge these are seldom used.

The roads of the Philippines have been gradually improved. Mining interests are no longer hampered by bad roads in which the bull carts carrying ores sunk to the hubs. Most of the roads have been graded with sandstone or broken rock and are hard and passable at all times of the year. The rivers do not have to be forded now as of old, for bridges have been rebuilt.

The markets for the products of the Philippine mines are as large always as the products. I visited a great many mines during the past three months and in every instance was told that the output could be disposed of as fast as taken out, no matter what the kind. As suggested above, the greatest call exists for copper, but all other minerals, especially coal, are sold usually at the mines and the miners do not have to go to the trouble of getting the products to the market for sale. I met with many buyers representing capitalists and foreign concerns who would contract for the entire output of a mine and care for the product as fast as deposited above the ground and treated.

Another point for thought at this stage is the profits as compared with profits of several months ago. Less than six months ago miners not only had some trouble in disposing of products, but after the products were sold there used to be trouble in making collections, even though prices ruled low. These times appear to have passed, for I am informed that the protection for mining companies as instituted by the Mining Bureau in Manila have altered things for the better, and it is now possible to dispose of all products promptly and to secure payment at figures which assure liberable profits.

THE LAKE SUPERIOR MINING INSTITUTE MEETING.

A howling snowstorm, one of the worst of the winter, greeted the members of the Lake Superior Mining Institute on the day set for the opening of the annual meeting on Tuesday, March 6th. In spite of the weather, however, over 100 members arrived by Tuesday noon and more came in the evening and on the following day. All came prepared for winter weather and determined to have a good time.

On Wednesday afternoon a large party took the cars of the Houghton County Street Railway to the Quincy Mine. It was met at the mine by S. B. Harris, general superintendent; J. L. Harris, assistant superintendent; Thomas Whittle, mining captain, and James Moore, master mechanic, who showed the party the shaft houses, hoisting plant, and, in fact, the entire surface equipment. At 5 o'clock the party returned to Houghton and visited the Michigan College of Mines, President McNair courteously acted as guide through the buildings, pointed out the present facilities of the college, some of which are confessedly inadequate, and explained the work done by the students.

At the opening session in the evening President Graham Pope occupied the chair. The president's annual address described the early days of copper mining in the region about Portage from the time the mines were first opened down to 1860.

The second paper was "Steel Construction for Mines," by J. T. Jackson, while the last paper of the evening was an "Historical Sketch of Smelting and Refining Copper," by J. B. Cooper, of Lake Linden.

After breakfast Thursday morning the members of the Institute took a special train on the Copper Range Railroad to Redridge, where they inspected the famous steel and concrete dam that is to supply water for the Atlantic and Baltic mills. This is the third steel dam to be erected in the United States and in some particulars it differs from any yet built. The party was shown about by J. F. Jackson, the engineer who designed the dam, and by J. F. Clarkson, of Prendergast & Clarkson, who have the contract for the concrete work. From the dam the visitors went down to the new Baltic Mill and were shown about by Assistant Superintendent Denton. Next the party went to the Atlantic Mill, and followed the copper rock from the great steam stamps to the slime tables. The party went next to Painesdale, where luncheon was served in the Champion Mine's boarding house. After viewing the surface plant under the guidance of Dr. L. L. Hubbard, general manager, and Engineer O'Neil and listening to a brief address by Dr. Hubbard on the Copper Range's mining properties, the party next visited the Trimountain with Superintendent Chynoweth, of the Fay group. Then the Atlantic Mine was visited, where Superintendent Frank McM. Stanton and Clerk A. D. Edwards served refreshments and cigars at the mine office. The party arrived in Houghton again about 6 o'clock.

The weather which had been so boisterous the day before moderated greatly on Wednesday and during Thursday and Friday it was clear and bright. Consequently there was nothing to hinder the success of the excursions to the points of interest near Hancock, Houghton and Calumet.

At the evening session the attendance was larger than on the night before, thanks to the improvement in the weather.

Capt. W. E. Parnell, Jr., read the first paper, taking for his subject "No. 5 Shaft at the Tamarack Mine." He described this great undertaking in detail from the time work first started, giving the method used in sinking and the cost. He illustrated his paper by a large wooden model showing the manner in which the shaft was kept covered to prevent material falling in and causing accidents. In a lively discussion after the paper Capt. Parnell said that no special apparatus was used for ventilation even at a depth of 4,000 ft. Air spaces were left between the compartments of the shaft and these supplied natural draft. After a blast air from the compressed air pipes was turned on to stir up the gases from the explosion. A special blasting powder was used containing considerable ammonium nitrate. The opinion was expressed by W. E. Parnell, Sr., that the water which dripped down the shaft purified the air.

At the close of the meeting the following officers were elected:

President, William J. Olcott, of Duluth, general manager of the Lake Superior Consolidated Iron Mines Company.

Secretary, A. J. Youngbluth, of Ishpeming, auditor of the Cleveland-Cliffs Company.

Treasurer, George H. Abeel, of Ironwood, superintendent of the Montreal Iron Company.

Vice-presidents, William Kelly, of Vulcan, superintendent of the Penn Mining Company; Dr. N. P. Hulst, of Milwaukee, general manager of the Oliver Mining Company.

Managers, James Clancy, of Ishpeming; James McNaughton, of Iron Mountain, general manager of the National Steel Company's mines; J. L. Greatsinger, of Duluth, president of the Minnesota Iron Company.

The newly elected president was escorted to the stage and was presented with a gavel made of steel and copper by Graham Pope, the retiring president.

On Thursday at 9 a. m. the members of the Institute took a train from Houghton over the Mineral Range Railroad to the Calumet & Hecla and Tamarack mines and inspected the work. The great engines and surface plants of the No. 5 Tamarack shaft and the Red Jacket shaft of the Calumet & Hecla came in for especial attention.

The closing session was held in the evening. J. A. Redfern read a paper on the "Prescott Corliss Compound Pumping Engine in Penobscot Mine." This is one of the largest underground pumps in the world. The second paper was by O. P. Hood on "The Invasion of the Watertube Boiler Into the Copper Country."

Walter Fitch then read a paper on "A New Form of Mine Drill," which he illustrated with drawings. A paper by President McNair, of the Michigan College of Mines, was "The Usefulness of Mining Engineering Graduates." "The Usefulness of Good Maps" was read by Dr. L. L. Hubbard and illustrated by maps which he had with him.

At the business meeting the secretary's report was read and accepted. This showed a balance in the treasury of $743. The receipts during the year were $1,150 and the expenses $407.

A telegram was received by Secretary Spurr from Mayor David S. Rose, of Milwaukee, extending an invitation to the institute to meet in that city in 1902.

A vote of thanks was extended to the Houghton County Street Railway Company, the Duluth, South Shore & Atlantic Railroad and the Copper Range Railway for the free transportation afforded the members to points of interest. A vote of thanks was also extended to President Graham Pope for his services; also to Professor Spurr for his services as secretary, and also to the mine managers who so ably seconded the efforts in the entertainment of the guests on their trips.

A list of 105 new applicants for membership was received and acted on. The list comprised students, mine managers, journalists and engineers. Among the new members are James Chynoweth, Francis H. Clergue, Albert H. Floeter, W. J. Richards, C. T. Roberts, W. A. Gardner, Mathew Van Orden, E. C. Searles, P. S. Smith, Dwight E. Woodbridge, W. E. Parnell, Jr., J. J. Cundy, J. E. Fay, J. Trebilcock and others.

On Friday morning the visitors inspected the Calumet & Hecla smelting works and the Tamarack, Osceola and Quincy mills, returning to Houghton in time for dinner. With the departure of the south-bound trains in the afternoon the members of the Institute separated after one of the most successful and enjoyable meetings ever held by the society.

AN IOWA COAL MINE.

Written for the Engineering and Mining Journal.

A model coal mining plant is located 10 miles west of Chariton, Iowa, and is known as Cleveland No. 4, the property of the Whitebreast Fuel Company of Illinois. The property comprises 1,200 acres, underlaid at a depth of 320 ft. with a vein of bituminous coal from 3½ to 6 ft. in thickness. This is a comparatively new plant, the top works having being completed on August 15th, 1899, and the hoisting of coal started early in the following month. The top works or tipple is constructed wholly of steel, and is 68 ft. in height. The steel used in the construction of the work was furnished by the Pittsburg Bridge Company. Mine No. 4 is situated just south of the main line of the Chicago, Burlington & Quincy Railroad, and is connected therewith by several tracks and switches, which lead directly to the plant, affording ample yard room. A little over two years ago Chief Engineer George S. Rice, of the Whitebreast Company, began the work of arranging plans for the new mine, which the management had decided must be complete in every detail. Work started early in the spring, and within 71 days after the shaft was started, it was practically completed. The work of construction was superintended by R. M. Geffert, mining engineer, and a graduate of Columbia College, who is an assistant to Mr. Rice.

The engine-house, boiler and blacksmith shop are a large building constructed of corrugated iron, while the boiler house is on the opposite side of the track. The plant is regarded as practically fireproof.

The necessary power at the shaft is furnished by an 18 by 24-in. first-motion hoist, built at the Ottumwa, Ia., Iron Works, for which steam is furnished by four boilers 44 by 36 in., constructed at the Ottumwa Boiler Works. A three-deck shaking screen for assorting the coal into nine different sizes is placed just south of the shaft. From this series of shaking screens the output is dumped into the cars. The screens were furnished by the Chicago Link Belt Machinery Company. A Christie box-car loader, made by the Eagle Iron Works of Des Moines, is being put in at the mine, and will soon be in regular operation.

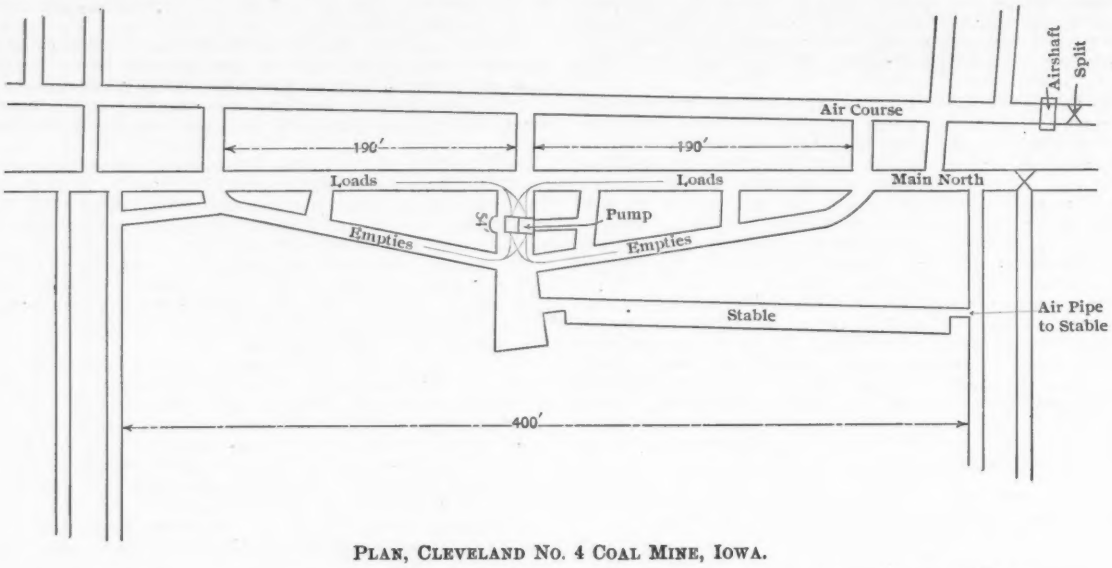
The underground plan is carefully prepared. The miners have so far gone south of the main shaft 1,500 ft., and north 1,700 ft., with cross-entries running east and west. On the west side the mine is in 1,400 ft., and 1,200 ft. on the east side. There are now five pairs of cross-entries going east, and five pairs going west, each 400 ft. apart, while

the rooms are 200 ft. deep. In all 350 people are employed in the mines. The company is using Dupont's Single P. powder exclusively.

The product of Cleveland Mine No. 4 is taken by three concerns—the Burlington & Missouri River Railroad taking two-thirds; the Nebraska Fuel Company 250 tons a day, and John T. Dergan, of Lincoln, Neb., 150 tons a day. A small amount is sold. Within the mine 317 rooms are planned, 164 of which are now finished, and 153 working. Already there has been 23,986 ft. of entry driven.

The ventilating system is considered the best in the State. A fan of very hard limestone; 83 ft. of gray, black and red shale mixed with sand rock. Below this was a stratum 196 ft. deep of sand rock, and in 70 ft. of this was much water. Then come 50 ft. of black shale intermixed with rock boulders and immediately above the coal was 12 ft. of hard rock, affording a good roof. The prospecting was done by a diamond drill made by the Sullivan Machinery Company and under the supervision of Geo. S. Rice.

The mine superintendent is David O. Campbell. Its present capacity is 20,000 tons a month. The accompanying diagram shows the arrangement at the bottom of the shaft and illustrates the system in use. The large illustration is a general sketch of the surface works.



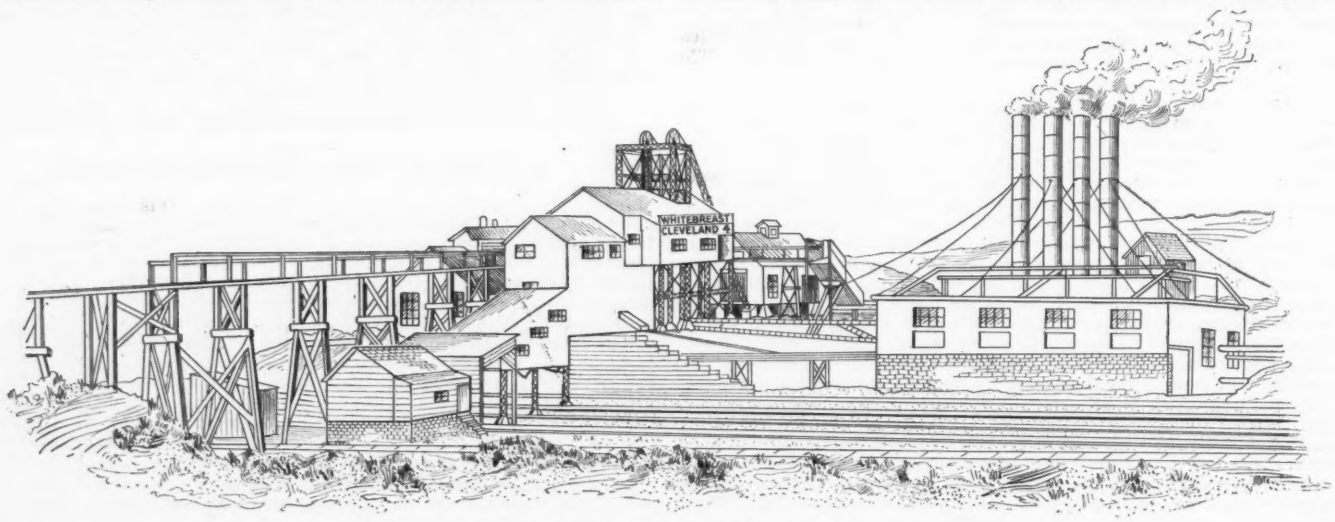
PLAN, CLEVELAND NO. 4 COAL MINE, IOWA.

20 ft. in diameter, built by the Ottumwa, Ia., Iron Works, run by a 12 by 18-in. engine, forces air through the mine. The fan is encased in a steel covering made by the Murray Iron Works, of Burlington, Ia. The air shaft is divided into two compartments, the air compartment being 9 ft. 4 in. by 7 ft.; the other compartment 5 ft. 8 in. by 7 ft. In the latter is a cage, affording a means of exit from the mine. This shaft, situated 300 ft. from the main shaft. The air is divided below into four splits, giving fresh air to all parts of the mine.

Both the hoisting ropes are made by the J. A. Roebling & Sons Company. The guides in the hoisting shaft are 45-lb. steel rails. An average of three pit cars of 3,000 lbs. each is hoisted every minute. The pit cars are of steel, and are manufactured by the Ottumwa Iron Works; 250 of these are in use, and they run on 16-lb. steel rails in the entries, and 12-lb. rails in the rooms, with a 3 ft. 2-in .gauge. The rails were made by the Illinois Steel Company. The rails are fastened with 2½ by ⅝-in. "T-rail" spikes, made by the Tudor Iron Works of St. Louis. The company uses mule haulage at present, but is considering the advisability of putting in electric haulage in the main and part of the cross-entries.

The water in the mine is handled by two 4 H. P. gasoline pumps, made by the Fairbanks-Morse Company. These pumps throw water from the inside to the bottom of the shaft, and from there it is conveyed to the top by an outside packed plunger pump from the Geo. F. Blake Manufacturing Company. Through this system the company handles 40,000 gallons of water every 24 hours. The mining machines are from the Hardscog, Joplin, American Tool Company and Star Machine Company of What Cheer. Each pit car is weighed separately in the hopper before the coal is run over the screens.

The geological formation disclosed in shaft sinking is as follows: 75 ft. of surface composed of blue gumbo with very little sand; blue and gray shale for 60 ft., in which were found two coal veins, each 18 in. in thickness, overlying small quantities of fire clay. Then followed 2 ft.



CLEVELAND NO. 4 COAL MINE, IOWA.

PETROLEUM IN BURMA.—"Indian Engineering" says that the revenue obtained from the various oil-fields in Burma during last official year increased by over a lakh of rupees to 407,631 rupees. This represents an increase in output of over 8,000,000 gallons. The Minbu Oilfield has been finally abandoned owing to failure to discover oil in paying quantities. Wells were drilled unsuccessfully to a depth of over 2,000 ft. in one block without tapping oil. A large quantity of oil is now taken as fuel by the Irrawaddy Flotilla Company's steamers, and the extension of their oil-refining premises in Rangoon has enabled the Burma Oil Company to extend their operations and to take practically the whole production of the wells owned by native workmen. There seems to be a great future for Burmese petroleum if improvements are made in the refining process. There is room for the latter.

IMPORTS OF COAL IN CHILE.—The imports of coal into Chile for the year are reported by Jackson Brothers, of Valparaiso, as follows, in metric tons:

	Steam.	Smelting.	Total.
Great Britain	220,280	15,657	235,937
Australia	356,859	46,350	403,209
United States	35,600	.....	35,600
Totals	612,739	62,007	674,746
Totals, 1899	594,319	67,350	661,669

In smelting coal the changes were small. In steam coal last year, as compared with 1899, there was a decrease of 63,720 tons in English coal and an increase of 49,740 tons in Australian. The receipts from the United States, though small in quantity still, were the largest ever reported, comparing with 3,200 tons in 1899.

ABSTRACTS OF OFFICIAL REPORTS.

De Beers Consolidated Mines, Limited.

The report of this company for the year ending June 30th, 1900, shows that, in spite of all the drawbacks caused by the war in South Africa, the gross earnings amounted to £2,070,414. The working expenses were £1,005,022; depreciation, £81,127; redemption of debentures, £145,300; interest on debentures, £217,035; extraordinary expenses owing to the war, £167,734; total, £1,616,218, leaving a balance of £454,196, as profit for the year.

The profit and loss account shows credits as follows: Revenue for the year, as above, £454,196; interest and dividends on investments, £126,952; balance from previous year, after deducting £159,851 for remuneration of life governors, £966,878; total, £1,548,026. From this the sum of £1,348,026 was charged off as "undivided profits applied in reduction of book values of assets," leaving a balance of £200,000 forward to current year.

The condensed statement of operations shows the following results for the year:

	De Beers and Kimberley.	Pioneer.	Totals.
Loads blue ground hoisted	1,673,664	980,210	2,653,874
Loads blue ground washed	1,522,108	736,929	2,259,037
Loads on floor at close of year	2,722,595	1,340,313	4,062,908
Diamonds found, carats	1,000,964	220,763	1,221,727
Realized from sales	£1,794,223	£276,191	£2,070,414
Carats per load blue	0.67	0.30	0.54
Amount realized per carat	$8.604	$6.004	$8.136
Amount realized per load	5.658	1.798	4.402
Cost per load	1.804	0.630	....
Profit per load	3.854	1.168	....

The average receipts and cost per load are reduced to United States currency. The blue ground hoisted and washed was only about one-half that reported in the preceding year. Development work included a total of 3,710 ft.

The report of General Manager George F. Williams contains the following interesting account: "This has been the most eventful year, not only to the mining industry generally, but to all South Africa. For some months previous to the commencement of the war, it was apparent to us, who were living upon the border of the Orange Free State, that preparations for hostilities were being made by that State. On October 5th the first serious disturbance of our work occurred. An alarm was sounded at 1 o'clock in the morning of that day, and all our men were called out to do military duty as it was rumored that an attack was contemplated by the Boers, who were massing commandoes in the Free State only a few miles distant. Although no attack was made, it became necessary to make preparations for the defence of the town. Our men were calld out to drill during a part of each day. Our tailing heaps, which formed natural defensive positions, were taken possession of by the military, and strong forts and redoubts were constructed upon the tops of these heaps, and mines of dynamite were laid at their bases. Other defensive fortifications were made upon the ground lying between the tailing heaps. The labor necessary to do this work was drawn from our mines and works. Nearly all of our men joined the various military organizations and slept in the forts and redoubts, in consequence of which work in and about the mines proceeded very slowly. On the night of October 14th, communication was cut off by the Boers blowing up the railway to the north and south, and cutting the telegraph wires. All work at the mines and on the floors was stopped on that day. The Boers took possession of the Kimberley Waterworks Company's plant on the Vaal River, some 16 miles distant, and cut off the water supply. Connections were made between Premier Mine pumping system and the Kimberley Waterworks Company's reservoir, and a supply of 8,000,000 to 10,000,000 gallons of water per month was delivered to that company, on the understanding that only half rates should be charged to the inhbitants of the town. The water was perfectly clear, pure and wholesome.

"When the siege commenced, we had 8,000 tons of coal in stock and a considerable quantity of dynamite; besides this, there were about 1,500 cases of dynamite belonging to merchants. It became necessary to remove nearly all the dynamite from the magazines in the vicinity of the town to magazines at Dronfield, from which, for a time, supplies were drawn; but these magazines were subsequently blown up by the Boers. Our stock of coal at the end of the siege amounted to 600 tons. Being anxious to do as much work as possible while the supply of coal and dynamite lasted, we obtained permission from the officer commanding for our men to resume work in the mines, on condition that substitutes were found to take their places in the forts. A company of men was organized by the assistant general manager, at De Beers and Kimberley mines, known during the siege as the Permanent Guard, which was composed mostly of refugees, to take the place of the men needed to carry on work in the mines. We were, therefore, able to resume work, which was continued at Kimberley Mine until November 3d, and at De Beers Mine until December 4th. The amount of ground hoisted at Kimberley Mine from October 14th until November 3d was 60,396 loads, and at De Beers Mine until December 4th was 173,447 loads.

"The pumps in both mines were kept going until a few days before the siege was raised, and started again before the water had filled the tunnels in the rock outside the mines proper. We thus prevented any damage being done to the underground works. I am pleased to report that no damage whatever was done by the Boer shells (about 8,000 of which were fired into the town) to any of our machinery. This is remarkable, as many of our large plants were within 3 miles of the Boer guns and all formed conspicuous marks for them. The military conning tower was built upon the top of the pit-head frame at No. 1 Shaft, De Beers Mine, and received the attention of the Boer 100-pounder during the last few days of the siege. Only one shell struck any of the numerous buildings about this tower. It came through the roof of the air compressor house and burst against the wall, doing no damage beyond the breaking of a few panes of glass. In order to conserve our coal supplies, all electric arc lights were cut off during the siege, and, as the municipal lights were not burning, the town presented a gloomy appearance. Three electric searchlights—'Rhodes's eyes' as the Boers called them—each 25,000 candle power, were kept constantly playing upon the enemy during the night.

"The town of Kimberley and works of this company were saved from destruction by the Boers owing to the natural defensive position of our tailing heaps, strengthened by fortifications made under the able directions of Capt. McInnes, and laid with mines of dynamite; to the courage of the citizen soldiers, who were assisted by the 500 Imperial troops; to the indomitable will of the chairman of this company, whose pent-up energies found vent in devising ways and means for adding to the military plans of defence, for employing the thousands of idle whites and natives, and for providing the hungry women and children with food; to the forethought of the De Beers men in charge of buying food for man and beast, who laid in supplies far in excess of any expected emergency, and which proved such a boon to all during the long, weary and eventful four months of separation from the rest of the world; and lastly, but possibly the least of any, did Kimberley owe its preservation to the disinclination of the Boers to attack a fortified town, but who with commandoes numbering 12,000 men and a large number of guns, contented themselves by firing their shells into the residences occupied by women and children, whose husbands and fathers were occupying the forts in defence of all. When the 100-pounder began to throw its missles of death among them, this company again came to the rescue by putting all its available force on works for sheltering the women and children. As it took considerable time to construct these shell-proofs, the long tunnels in the mine were got ready, and on Sunday, February 11th, about 3,000 women and children, together with food and bedding, were lowered into the De Beers and Kimberley mines, where they remained until Friday the 16th. That all this mass of people were taken in and out of the mines without the slightest accident redounds to the credit of those who had charge of the detail work at the mines.

"It is with deep regret that I have to record the tragic death of Mr. George F. Labram, to whose services during the siege we all owe so much. Having been constantly called upon for assistance by the officer commanding and the Royal Engineers, he was of invaluable assistance to them in organizing and carrying out various matters in connection with the defence of Kimberley. With the aid of the engineering and mechanical departments, he planned and constructed 'Long Cecil,' a breech-loading gun which fired a projectice weighing 28 lbs. for a distance of nearly 5 miles. The gun was beautifully rifled according to the latest improvements in gunnery, and fired the shells with great precision. To have constructed a gun of this size (4.1 in.) from material carried in stock at our stores, and with tools made especially for this work in our machine shop and to have completed the gun ready for use in the short space of 24 days, seems almost incredible. Neverthless, it is a fact that from a solid piece of hammered steel, 10 ft. long and 10½ in. in diameter, this gun was made and was in use for several weeks during the latter part of the siege, and fired 225 shells."

MINING CAMPS NEAR TOPIA, DURANGO, MEXICO.

Writen for the Engineering and Mining Journal by Frank B. Fowler.

(Concluded from page 335.)

Chacala.

Chacala lies southwest of El Rodeo, 4 hours' ride, at an altitude of 2,000 ft. It is essentially a gold camp, the ores carrying but a small quantity of silver. The principal mines are La Candelaria and San Juan, owned by Mr. Thomas Dismuke and partners, of Chacala and Nashville, Tenn., and Mino de Oro, owned by Sr. Lucio Rivera, of Topia. When the writer was here during the early part of the year Mr. Dismuke was crushing ore of 4 oz. per ton with a Davis mill, and reducing by chlorination, purchasing liquid chlorine from Germany, but he was preparing to enlarge his plant and make his own chlorine on the spot. The ores are very refractory, but high grade, the loss in treatment being about 20 per cent. Population of Chacala, about 1,000. Chlorination has now been changed for the cyanide process.

San Juan del Norotal.

San Juan has long been an intermittent producer of gold and silver. It has one mine dating back before the conquest that up to the present has not been entirely explored. It has gold placers, also, and is now attracting renewed interest by recent discoveries of copper ore in its vicinity. It is best reached from Topia via the Tamazula Quebrada, turning off to the northwest at a place called Amacuable, an Indian village just above Aguacaliente, crossing the divide between this quebrada and that of Sianori, and crossing that quebrada at Rancho San Geronimo. This is the usual travelled route to San Fernando. It can also be reached via Sianori.

El Tigre.

El Tigre is another mine owned by Sr. Eraclio Amador, that has been a famous producer of gold and silver, and has by no means been exhausted, but the peculiar policy of its owner has kept it idle now for several years.

Near the Tigre, on the right bank of the Sianori River, or quebrada, is the copper mine Fanny, recently discovered, owned by Sr. Antonio Anitua, of Topia and Durango. It is 20 in. wide in ore, the vein being double this width, carrying some silver and 25 per cent. copper. There is one parallel vein within the boundaries of this property, toward which the main vein dips. It is a day and a half from Topia, via Sianori.

Sianori.

This is one of the oldest camps in the district. Its mines have been worked as far back as history goes, and none of them have yet been exhausted. They have reached the water level, however, and with the exception of one where there is pumping machinery, all are now practically idle. The principal mines are Azulac, San Rafael, San Miguel, La Honda, Xicotencal, La Luz and San Antonio. Sr. Eraclio Amador holds the preponderance of interest here, and although the mines are admitted to be good enterprises by competent miners and metallurgists who have

visited them, yet it seems no satisfactory arrangements could ever be made with Mr. Amador, so they remain in statu quo, while with pumps the camp would boom as of yore.

Mr. Amador has a 10-stamp mill, 6 concentrating tables, pans and settlers, a smelter, small sawmill, the whole lighted by electricity, and he drains one mine, where he is now working, with pumps. He has an air compressor as well. Power is derived from the Sianori River and from several boilers. The ores from these mines carry silver and gold, the latter in small quantities, readily yielding to treatment by concentration and pan-amalgamation.

Sianori, with all mines working, supports a population of 5,000; it has now barely 500. It is reached from Topia in 8 hours.

Las Sierritas.

This name is applied to the mountains lying between Sianori and San Fernando, and which contain many partially developed mines and virgin veins. The word "sierritas" is here used as a playful Mexican pleasantry, meaning literally "little mountains," whereas they appeared to the writer, who spent nearly a month amidst them, as the roughest, steepest, highest and most inaccessible mountains for miles around. However, they contain many veins, mainly gold-bearing, that may be obtained by purchase at low figures or by simple location or denouncement ("denuncio").

San Fernando, Copalquin, San Ignacio and Las Tijeras have been described or touched upon in another article which has appeared in the "Engineering and Mining Journal" July 21st, 1900.

Campo Miks.

This is not a mining camp, but a timber camp in a mining region, and as a necessary adjunct to the mining industry deserves passing notice.

Metates.

This camp is a day and a half northeast from Topia. It has but one mine, of the same name, but that one is quite an extensive property. The ore is cupriferous, containing from 30 to 50 per cent. copper, and carrying from 100 oz. to 600 oz. silver per ton. Much dead work has been done during the last few years, driving a tunnel, now completed, for an outlet below. Sr. Jose Torres and Juan N. Flores y Quijar, of Durango, are the principal stockholders.

La Miseria.

This is a gold mine, about 5 hours from Topia, owned by Mr. Lucio Rivera. It occurs in an immense dyke 200 meters high, of porphyry, the vein matter being quartz. The ore averages an ounce per ton, and is free milling. The owner does not care to work it by the "gophering" method so often practiced here, but wishes to form a company for its systematic exploitation. It offers exceptional inducements to men with capital.

El Carmen.

This mine is a day's ride northeast from Topia, situated in the mountain slopes of the right bank of the Humaya River, which here bears the local name of Rio de El Valle, from the town of El Valle, farther upstream about 7 miles. It is a silver producer, with a little copper. The ore is very high-grade, the shipping ore averaging 700 oz. per ton. Although the property is only 200 meters long by 100 meters wide, with its surface tilted at an angle of 45°, precluding any extensive work by means of adits, the mine produced in two years over $200,000, Mexican money, at an expense of about $30,000. The "azogues," or second-class ore, is reduced by the patio process at the river, 1,000 ft. below. Sr. Valeriano Flores, of El Valle, is the owner.

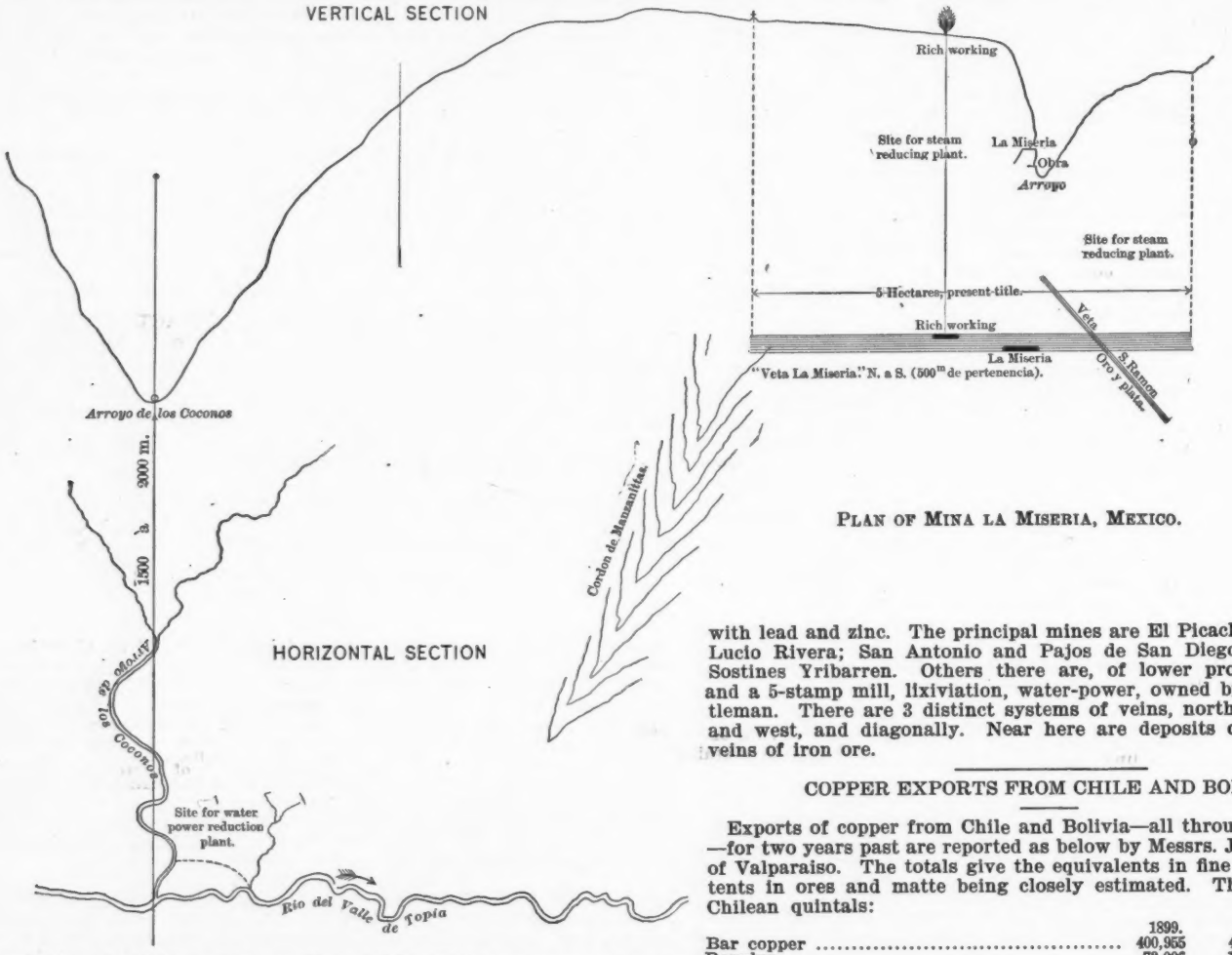
Srs. Lucio Rivera and Raman Espinosa, of Topia, with Sr. Flores, have the extension to the northeast, and Srs. Manuel Lopez and Jesus Sarabia, of Topia, the southwestern extension, reaching to the river. It is to be hoped that these gentlemen will agree upon some plan to drive a tunnel at the water's edge beneath these three properties, to be used by all.

San Jose de Los Llanitos.

This camp, commonly known as El Pando, is a day's ride from Topia, southeast. It happens to be in another political district, of which Santiago Papasquiaro is headquarters. The mines there are of silver, lead, some copper and cold. They are owned by the San Andres Company, an extensive concern, the principal mines lying toward Durango.

San Bernabe.

This camp is about 5 hours' ride from Topia. The mines are of silver, with lead and zinc. The principal mines are El Picacho, owned by Mr. Lucio Rivera; San Antonio and Pajos de San Diego, owned by Mr. Sostines Yribarren. Others there are, of lower producing capacity, and a 5-stamp mill, lixiviation, water-power, owned by the latter gentleman. There are 3 distinct systems of veins, north and south, east and west, and diagonally. Near here are deposits of limestone and veins of iron ore.



PLAN OF MINA LA MISERIA, MEXICO.

COPPER EXPORTS FROM CHILE AND BOLIVIA.

Exports of copper from Chile and Bolivia—all through Chilean ports—for two years past are reported as below by Messrs. Jackson Brothers, of Valparaiso. The totals give the equivalents in fine copper, the contents in ores and matte being closely estimated. The figures are in Chilean quintals:

	1899.	1900.	Changes.
Bar copper	400,955	442,174	I. 41,219
Regulus	72,006	105,172	I. 33,166
Ores	646,028	439,406	D. 206,622
Total, reduced to fine copper	552,097	565,062	I. 12,965

The notable points about this statement are the largely increased exports of bar copper and regulus or matte, and the decrease in copper ores. The quintal being 101.6 lbs., the equivalent in fine copper in 1900 was 25,630 long tons, or 26,040 metric tons.

Of the copper exported in 1900, there was 78.3 per cent. in the form of bars; 8 per cent. in regulus, and 13.7 per cent. in ore. The exports, rated as fine copper, went in 1900 to the following countries: Great Britain, 424,154 quintals; France, 60,826; Germany, 19,883; shipped on orders, Great Britain or Continent, 21,803; total to Europe, 526,666 quintals. Other shipments were to Peru, 220 quintals; Australia, 3,130; United States, 35,046 quintals. The copper sent to the United States included 10,851 quintals ore, 68,573 regulus or matte, and 3,913 quintals bar copper.

The following table shows the total exports reduced to terms of fine copper, for 14 years, in quintals.

Year.	Qtls.	Year.	Qtls.	Year.	Qtls.
1887	642,856	1892	498,088	1897	482,112
1888	689,427	1893	471,043	1898	554,538
1889	534,962	1894	470,783	1899	552,097
1890	576,422	1895	487,223	1900	565,062
1891	439,634	1896	518,025		

The year 1900 shows an increase of 12,965 quintals over 1899, and of 125,378 quintals over 1891, when exports were at the lowest point shown in the table. The total, however, was 77,794 quintals below that of 1887, and 124,365 quintals less than that reported in 1888.

MINERAL COLLECTORS' AND PROSPECTORS' COLUMN.

(We shall be pleased to receive specimens of ores and minerals, and to describe and classify them, as far as possible. We shall be pleased to receive descriptions of minerals and correspondence relating to them. Photographs of unusual specimens, crystals, nuggets and the like, will be reproduced whenever possible. Specimens should be of moderate size, and should be sent prepaid. We cannot undertake to return them. If analyses are wanted we will turn specimens over to a competent assayer, should our correspondent instruct us to do so and send the necessary money.—Editor E. & M. J.)

309.—Black Sand.—H. K. A.—The black sand you send is high in iron but also contains titanium. Such black sands are of quite common occurrence, resulting from the decay of igneous or metamorphic rocks. Many attempts have been made to work them on a commercial scale as iron ore, but the accompanying small percentage of titanium has rendered all such attempts failures.

311.—Minerals of the Oural Mountains.—A report from W. R. Holloway, United States Consul-General at St. Petersburg, says that visitors to the School of Mines at St. Petersburg (which contains the most valuable stock of minerals and precious stones to be found in the world) cannot but be impressed with the possibilities and resources of the Oural Mountains. The specimens on exhibition comprise nuggets of gold worth $20,000, and of platinum weighing 20 lbs.; there are perfect crystals of green beryl weighing 5 lbs., a single mass of malachite weighing more than 2,000 lbs., as well as an enormously valuable collection of topazes, emeralds, chrysoberyls, garnets, amber, lapis lazuli, rock crystals, sapphires, jade, etc.

312.—A Remarkable Variety of Transparent Oligoclase.—In the "American Journal of Science" Mr. Geo. E. Kunz describes some specimens of feldspar from the Hawk Mica Mine, 4 miles east of Bakersville, N. C. The specimens were found at a depth of 380 ft. and are remarkable for their clearness. The largest piece measured 3 by 2 by 1 in. and in color is a faint window glass green. It contains a series of cavities surrounded and fringed by tufts of white needle-shaped microlites; these measure from 0.5 to 1.5 mm. in diameter and are quite round, resembling those occasionally present in the Ceylonese moonstone. The wonderful transparency of the oligoclase and the white inclusions gives the whole mass a striking resemblance to the lumps of glass, so commonly obtained from the bottom of a glass pot. It was mistaken for this until the highly perfect cleavage was noticed; this is remarkable for the entire absence of the striae so characteristic of the plagioclase feldspars.

Recently some material of a slightly different character has been obtained at the mine. Cleavage masses of white striated oligoclase 3 in. long were found, containing nodules about 10 to 15 mm. square; these are as colorless and pellucid as the finest phenacite and are entirely free from the inclusions found in the greenish variety. This transparent variety like the others shows no striae. An analysis made from the faint green variety shows it to be a typical oligoclase. The specific gravity is 2.651.

313.—Graphite.—A. D.—Your specimens show crystalline graphite distributed through a mass of brown feldspar crystals. The graphite is of fair quality, but we doubt if the rock carries enough to make it of value as a source of supply. There are a number of places where rock carrying a higher percentage can be found.

314.—Limestone.—W. A. D.—The brownish rock is an ordinary limestone. The white crystals fill what was once a cavity in the rock. The crystals are calcite, carbonate of lime.

315.—Silver Ore.—G. T. M.—Your ore is not a simple mineral. It contains flakes of sericite, a micaceous mineral, and also carries iron oxide. The peculiar greasy feeling is due to the sericite. The sample contains no graphite.

316.—Sand.—P. M. Company.—The sample of sand is not pure silica. It contains some clay and a little micaceous material. It is not adapted to the same purposes as a pure silica sand. Its commercial value would depend on its location. We do not think it would sell for enough to stand a long haul.

QUESTIONS AND ANSWERS.

(Queries should relate to matters within our special province, such as mining, metallurgy, chemistry, geology, etc.; preference will be given to topics which seem to be of interest to others besides the inquirer. We cannot give professional advice, which should be obtained from a consulting expert. Nor can we give advice about mining companies or mining stock. Brief replies to questions will be welcomed from correspondents. While names will not be published, all inquirers must send their names and addresses. Preference will, of course, always be given to questions submitted by subscribers.—Editor E. & M. J.)

Rawhiding Ores.—I am told that the "Engineering and Mining Journal" has given an interesting account of the method of "rawhiding" ores, as practised in British Columbia and other northern districts.—H. P. F.

Answer.—A description of rawhiding ores was given in a letter from W. M. Brewer, published in the "Engineering and Mining Journal," May 7th, 1898. As that number cannot now be furnished, we reprint below the essential part of the description:

"This rawhiding system of transportation can only be practiced in a mountainous country covered by deep snow, and under such conditions is preferable to any other system of hauling. An ordinary beef hide is used; this is spread out with the hair side on the snow, the sacks of ore are laid upon it, the legs drawn over the top, and the hide drawn together by lacing from side to side, then the tail and head are laced together, a log chain passed around the outside to serve as a brake, and a horse hitched to the head end. The hair protects the hide itself in slipping down the trails, and one will last several months, as long as the snow is hard; but of course, when it commences to melt, the dampness and the friction soon wear holes. The trails used by the rawhide train are selected so that the grade will not be too steep for horses to climb with the empty hides or to cause the loaded ones to run away, but sufficiently inclined to compel the horse to pull a little, about enough to keep the tugs taut. One man looks after three or four horses and their loads."

Commissions on mining deals.—Will you please give me your opinion briefly in the matter as follows: Jones has partially succeeded in getting the handling of a $700,000 gold mine, but has utterly failed in finding a buyer. Smith has clients who desire a large producing property, but he has been unable to find what they want. Brown knows conditions with both men, and finally induces Jones to turn over reports, etc., to him, which he sends to Smith. The latter sends abstract to his clients. They are interested, and order Smith to make examination and tests. Jones turns the deal entirely over to Smith, who negotiates directly with the owners, and closes a deal. Now, in the face of custom pertaining to mining deals, what share or percentage in the net proceeds from the commission on profits made should go to Brown, there being no previous agreement as to the division?—M.

Answer.—While on the above statement Brown should be entitled to a commission, as the deal would not have been closed without his intervention, there is no established custom or rule which would fix the amount. In the absence of any previous agreement, Brown's commission would be simply what he could get out of the parties; and that would depend upon their ideas of fairness and equity.

RECENT DECISIONS AFFECTING THE MINING INDUSTRIES.

Specially Reported for the Engineering and Mining Journal.

OWNER OF DOWER NO RIGHT TO MAKE MINING LEASE.—Where one gave his wife a life estate in his lands, and directed that she could not sell any of the real estate, she had no authority to make a mining lease whereby the lessee might remove all coal he desired, at a certain royalty—the mine not having been in operation at time of husband's death—since such lease was a sale of real estate.—Hook vs. Garfield Coal Company (83 Northwestern Reporter, 962); Supreme Court of Iowa.

INJUNCTION WILL NOT ISSUE ON SINGLE ACT OF TRESPASS.—Where in an action to enjoin certain parties from trespassing on a mining claim and destroying the ditches, end gates, etc., of another, the only evidence of trespass was that on one occasion one of the parties came and commenced digging a ditch and refused to go when ordered, saying that he was going to pull up the gates and take the water that the other party was using, the complaint was properly dismissed, since an injunction to restrain trespass on a mining claim will not issue on proof of a single act of trespass. Proof that the parties are insolvent is not of itself sufficient to justify an injunction.—Parker vs. Furlong (62 Pacific Reporter, 490); Supreme Court of Oregon.

PATENTS RELATING TO MINING AND METALLURGY.

UNITED STATES.

The following is a list of the patents relating to mining and metallurgy and kindred subjects, issued by the United States Patent Office. A copy of the specifications of any of these will be mailed by the Scientific Publishing Company upon receipt of 25 cents.

Week Ending March 5th, 1901.

669,101. INCANDESCIBLE BODY. Henri Reeser, Paris, France. A substance capable of causing the ignition of gas or combustible vapor and of serving, at the same time, as an incandescent mantle, comprising a metallic fabric formed of threads of a refractory alloy containing polinium, in a free state or in combination with tungsten, molybdenum and antimony.

669,118. AIR-COMPRESSOR. Franz J. A. Kindermann, Melbourne, Victoria. An air-compressor comprising an outer cylinder having a valve for the inlet of air into its chamber, an inner double cylinder with a cooling-space between the inner and outer walls thereof, a piston within the innermost cylinder and connected with the outer cylinder, valve communication between the chambers of outer cylinder and innermost cylinder and an outlet-pipe leading from the innermost cylinder.

669,140. PRODUCTION OF COMPRESSED GAS. Wenzl Knapp, Hamburg, Germany. An apparatus for producing compressed gas having a constant pressure, composed of a vessel containing a liquid and divided into two compartments, the upper compartment communicating with the lower compartment by a pipe reaching to near the bottom of the latter, a pump for forcing the gas into the lower compartment and thereby the liquid into the upper compartment, and a pressure-regulator in the upper compartment which is connected to the pump to automatically cut off the gas when the desired pressure is obtained and readmit the gas when the pressure is reduced.

669,145. APPARATUS FOR THE MANUFACTURE OF METAL TUBING. Peter C. Patterson, McKeesport, Pa., assignor to the National Tube Company, New York, N. Y., and Pittsburg, Pa. In tube-drawing mechanism, the combination of a welding-furnace, longitudinally-reciprocating drawing mechanism back of the same having a transversely-moving depending arm, and an independently transversely moving tube-receiving platform.

669,192. DREDGING APPARATUS. John C. Whisler, Chicago, Ill., assignor to James P. Cole and Egbert W. Gillett, same place. The combination with the main tube, of the upward air-jet discharging thereinto near its lower end and a separate water-jet suitably projected to impact the air at rapid intervals within the tube against downward expansion and compel it to rise with the suspended gangue through the main tube.

669,205. STORAGE-BIN. Eugene L. Messler, Pittsburg, Pa. A storage-bin for granular materials, having vertically-extending front and rear walls connected by a sloping bottom upon which the stored material normally rests statically, the said bottom being composed of separate bars, said bin having an opening in its side at the lower end of the bottom, and a movable gate for the opening.

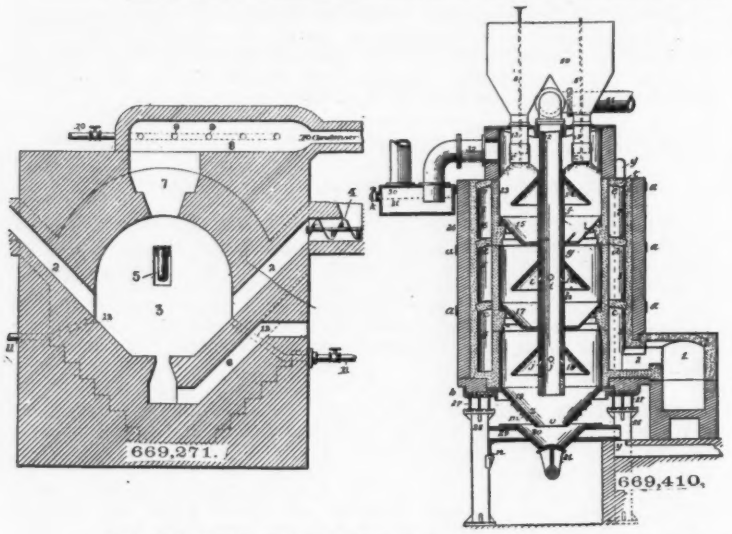
669,242. REVERSING ROLLING-MILL. John G. Hodgson, Maywood, Ill., assignor to Norton Brothers, Chicago, Ill. In a reversing rolling-

mill, the combination with reversing-rolls, friction-clutches for reversing the rolls, a hydraulic ram for operating said clutches, a reversing valve and valve-lever for said ram, feed-screws for setting the rolls closer together, a rack and gears for turning the feed-screws, a feed-screw ram for actuating the rack, a notched bar for regulating the movement of the feed-screw-ram piston, a stopping-valve for said feed-screw ram, and a starting-valve for said feed-screw ram.

669,264 and 669,265. FURNACE FOR HEATING METAL BARS OR SHEETS. Edwin Norton and Hurd W. Robinson, Maywood, Ill., assignors to Norton Brothers, Chicago, Ill. In a sheet or bar heating furnace, the combination with the heating-chamber of the furnace, of a rotary holder mounted therein on a shaft extending through the sides of the furnace, and provided with a series of slots or receptacles closed at their inner and outer ends or edges to form supports for the edges of the bars or sheets as the holder revolves, said furnace being provided with a door at the side thereof through which said shaft extends for the insertion of the bars or sheets into the furnace and holder.

669,268. REVERSING-ROLLING-MILL FEED-TABLE. Hurd W. Robinson, Maywood, Ill., assignor to Norton Brothers, Chicago, Ill. In a reversing rolling-mill, the combination with the reversible driven roll, of a reversing feed-table.

669,271. ART OR PROCESS OF MAKING PHOSPHORIC ACID. Frank P. Van Denbergh, Buffalo, N. Y. The process consists in subjecting a phosphorus-containing substance and a silicious substance to heat



669,271.

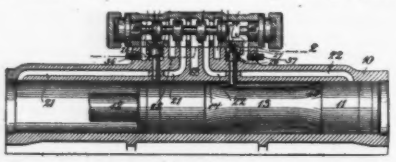
669,410.

and electrolysis until a silicate is formed, and substantially all of the phosphorus has been driven off or set free, and combining the phosphorus with oxygen and hydrogen to form phosphoric acid.

669,276. SUBMARINE MINING MACHINE. Albert Allen, Spokane, Wash. A submarine mining-machine comprising an open-ended sluice-box adapted to rest throughout its length on and be dragged along a subaqueous bottom, a scraper at the forward end delivering the material of the bottom directly into the box, a compressed-water-jet pipe discharging into the box toward its rear to induce a current therethrough, means in the box receiving and retaining the precious particles separated from the material in its passage, and means for dragging the box backward and forward along the bottom, the box in its forward movement receiving, separating and discharging the material under water.

669,279. METHOD OF SHAPING SHEET METAL BY HYDRAULIC PRESSURE. Charles H. Harrington, San Jose, Cal., assignor to F. L. Argall and W. C. Anderson, same place. The improvement in shaping ductile or plastic materials, consisting in inclosing the material in contact with the die or former in a flexible elastic envelop, submerging the article thus inclosed in a body of inclosed liquid and subjecting the liquid exterior to the envelop to high pressure.

669,316. PRESSURE-ACTUATED VALVE FOR ROCK-DRILLS. Robert L. Ambrose, Tarrytown, N. Y., assignor to Rand Drill Company, New York, N. Y. The combination with a cylinder having distributing-ports leading to and from opposite ends thereof, an inlet-port and an exhaust-port, the inlet and exhaust ports being contained within the cylinder-casing but out of communication with the interior of the said cylinder, pressure-chambers arranged at opposite ends of the said distributing-valve, each of the said chambers having a port leading to exhaust, two independent primary valves for said ports arranged in the cylinder-casing and projecting into the inte-



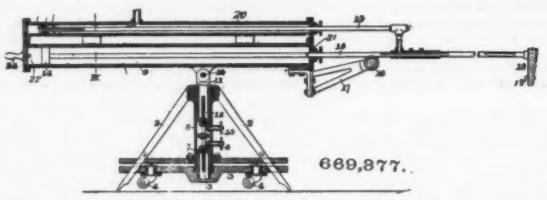
669,316.

rior of the said cylinder, and a reciprocating piston having a reduced central shouldered portion, said primary valves arranged at such a point in the cylinder as to be always covered by the piston during its movements and to be operated by engagement with the central shouldered portion thereof.

669,376. METHOD OF CONTINUOUS SHEET-METAL ROLLING. Thomas V. Allis, Bridgeport, Conn. The improvement consists in temporarily attaching one or more packs on a guiding-strip and in alignment therewith, which strip is longer than any one of said packs, the whole adapted to pass through a series of reduction-rolls.

669,410. ART OF EXTRACTING ZINC FROM ORES. Franklin Guiterman, Denver, Colo. The process of extracting zinc from its oxidized ores containing corrosive metallic oxids, which consists in introducing the oxidized ore in a divided or granular condition into a receptacle, heating the said ore through the walls of said receptacle, to a high temperature but below the volatilizing temperature of zinc, maintaining said ore in a permeable and mobile condition during the operation of heating, introducing into intimate contact with said ore a current of reducing-gas, under pressure, throughout the heating, continuing the heating and the action of the reducing-gas until the corrosive metallic oxides are reduced as described, withdrawing said ore and finally recovering the metallic zinc therefrom by distillation.

669,377. COKE-DRAWING APPARATUS. Addison M. Bacon, Pittsburg, Pa. Coke-drawing apparatus comprising a drawing-tool, means for pro-



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jecting and retracting it, and means for passing a stream of water to the tool.

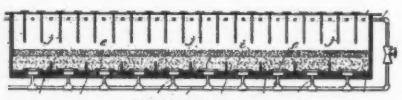
669,409. APPARATUS FOR HANDLING GROUND FINISHED CEMENT. William R. Dunn, Easton, Pa. A conveying apparatus, comprising a chamber reduced at its delivery end, blast mechanism extending into the said chamber at its enlarged end, a part of said blast mechanism being connected with one source of pressure and a part with another source of pressure, whereby either one or both of said blast mechanisms may be employed for introducing pressures of different degrees and means for delivering finely-ground materials to the said chamber to be acted upon by the blast.

669,411. RETORT FOR TREATING ORES. Franklin Guiterman, Denver, Colo. A vertical retort-cylinder, a double hopper with extensible delivery-tubes for feeding ore to said cylinder equably from the top, means for heating said cylinder through the walls thereof, a central pipe for supplying reducing-gas to the interior of said cylinder, means for deflecting and mixing the ore in its passage from the top to the bottom of said cylinder, an outlet near the top for the reducing-gas from said cylinder, a conical delivery-chute at bottom, and a reciprocating gate for intermittently discharging the treated ore.

669,422. AMALGAMATOR. Omer Maris, Russiaville, Ind. A sluice for amalgamators, having a series of parallel, transversely-extending plates secured thereon, each of said plates comprising a working plate having longitudinally-extending, parallel, alternately-arranged, overlapping slots therein, rounded ends to the slots, a base-plate, slotted, flexible material between the base and the working plate, bolts engaging the parts of each sluice-plate and adapted to bind the same together, and concave walls to the slots in the working plate converging toward the upper surface thereof, the lower edges or said walls registering with the edges of the slots within the flexible material.

669,425. SOLDER. William A. McAdams, Brooklyn, N. Y. A solder composed of zinc, cadmium and mercury.

669,439. ELECTROLYTIC APPARATUS FOR RECOVERING METALS. Hans A. Frasch, Hamilton, Canada. An electrolytic bath, having an anode extending over its bottom and consisting of suitable elec-



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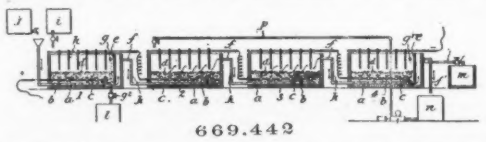
trical conductors and a body of disintegrated material containing the metal or metals to be extracted, a superposed layer of granular electrically-neutral permeable material in immediate contact with the disintegrated material, and suitable cathodes.

669,440. METHOD OF RECOVERING METALS BY ELECTROLYSIS. Hans A. Frasch, Hamilton, Canada. The method of producing an electrolyte of metals whose hydroxids are soluble in ammonia, which consists in percolating a solution of a salt of ammonia through an anode composed of disintegrated substance bearing the metal to be extracted, and in presence of a cathode decomposing the salt of ammonia by the action of an electric current, and circulating the solution successively through the anode and past the cathode.

669,441. METHOD OF PRODUCING ALKALI BY ELECTROLYSIS. Hans A. Frasch, Hamilton, Canada. The process of producing alkali and extracting metals from ores and metal-bearing mineral substances, consisting in electrolyzing a solution of the salt of an alkali in presence of an anode composed of the disintegrated ores or metal-bearing mineral substances containing the metal to be extracted, and a suitable cathode, conducting a supply of solution of a salt of an alkali both to the anode and the cathode and displacing the metallic solution obtained at the anode and the solution of caustic alkali produced at the cathode.

669,442. PROCESS OF RECOVERING AND SEPARATING METALS BY ELECTROLYSIS. Hans A. Frasch, Hamilton, Canada. The method consists in providing an electrolytic bath with a permeable anode composed of the ore bearing the metals to be obtained covered with



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a diaphragm composed of a granular, permeable substance, and circulating through such anode and through the diaphragm to the cathode an electrolyte capable of dissolving the metals and simultaneously electrodepositing on suitable cathodes the metals to be separated, keeping the other metals in solution.

669,446. DREDGING-BUCKET. Ocena B. Morris, Camden, N. J., administratrix of Joseph F. Morris, deceased. A dredging-bucket, comprising a stationary, rigid, shovel-like jaw or member, having a substantially semicircular upper end, and a movable jaw also having a substantially semicircular upper end, the said jaws being pivotally connected at their meeting upper ends.

669,466. APPARATUS FOR WITHDRAWING MOLTEN METAL FROM FURNACES, ETC., AND CHARGING SAID METAL INTO MOLDS, ETC. James McRae and George H. Kitto, Dollar Bay, Mich. An apparatus comprising a movably-supported vessel adapted to receive a charge of molten metal from a furnace and provided with a suitable pipe or conduit for the passage of metal, said vessel being also provided with a suction-pipe independent of the metal conduit-pipe whereby air may be exhausted therefrom, and with a relief-valve for air having an adjustable opening and indicated above the space to be occupied by the metal, whereby the flow of metal from the vessel can be controlled in order to permit the partial or complete discharge of its contents.

Reissue No. 11,894. COMPOSITE FUEL AND PROCESS OF MAKING SAME. Commodore O. P. Howell, Washington, D. C. Original No. 624,495, dated May 9th, 1899. A composite fuel composed of pulverized coal, fat-pine excelsior, and fiber of the Mexican cactus compressed into blocks or briquettes, substantially as described.

PERSONAL.

Mr. A. B. Hammond, mining engineer of Montana, is in San Francisco.

Mr. Herman Hening, of Middletown, N. Y., has accepted a position with the receivers of a mining concern at Ottumwa, Ia.

Mr. L. D. Phillips, a mining engineer, is visiting Prescott, Ariz., in the interest of Douglas, Lacy & Company, of New York City.

Mr. J. E. Stead, of Middlesboro, Eng., was recently awarded the Bessemer gold medal by the council of the Iron and Steel Institute.

Mr. T. H. Oxnam has been appointed general manager of the Palmarejo & Mexican Goldfields, Limited. His address is at Chinipas, Chihuahua, Mexico.

Mr. C. E. Ingersoll, mining engineer of Ashland, Oregon, has been examining the Brunswick Mine at French Gulch, Cal., in the interests of an Eastern syndicate.

Mr. Charles H. Krause, lately with the Tamarack Mining Company, has been appointed superintendent of the new mill of the Mass Company near Mass, Mich.

Mr. Charles D. Lane, one of the most active of the prominent California mining men, recently visited the Sweepstake gravel mines near Weaverville, Trinity County.

Mr. E. Peabody, dredger owner of Oroville, Cal., and Mr. C. M. Edgerly, are negotiating for the purchase of the Blowers dredger now near Reid Ferry, Shasta County, Cal

Mr. C. H. Souther, president of the Boston & Idaho Gold Dredging Company, has returned to his home in Boston, after a short stay at the company's property at Idaho City.

Mr. J. W. Duval, of Manvel, Cal., who is interested in claims in the Gold Belt Mining District, Providence Mountains, San Bernardino County, Cal., has been in Los Angeles.

Mr. F. F. Brow, master mechanic of blast furnaces of the National Steel Company at Youngstown, O., has resigned to accept a similar position at the 3 furnaces of M. A. Hanna & Company, at Buffalo, N. Y.

Mr. W. S. Ayres, mining and mechanical engineer of Hazleton, Pa., has been appointed consulting engineer by the Dominion Iron and Steel Company for its large iron mining operations in Belle Island, Newfoundland.

Mr. H. Van F. Furman has accepted temporarily the professorship of metallurgy and assaying at the Colorado School of Mines at Golden for the balance of the school year; in the place of Mr. Clerc, resigned.

Mr. Hiram Sibley, Jr., has given Cornell University $85,000 for an addition to the Sibley College of Engineering. It will connect the 2 present buildings and give them a frontage on the campus of nearly 400 ft. long.

Mr. P. H. Kane will sever his connection with the E. P. Allis Company, of Milwaukee, Wis., not later than April 1st, and will devote his entire attention to the interests of the Lake Erie Engineering Works, of which he is superintendent and a large stockholder.

Mr. F. N. Flynn, metallurgist for the La Sal Copper Mining Company, of Cashin, Colo., has resigned his position with that company and has accepted a position with the Avino Mines of Mexico, Limited, Company, at Avino, Durango, Mex., as superintendent of reduction works.

Mr. W. B. Milliken, a prominent mill man of Florence, Colo., has resigned his position as general manager of the Union Extraction Company and will devote his time to private work in the Cripple Creek District. His place will be taken by Mr. Jacobs, formerly of the El Paso Reduction Company, of Florence.

Mr. Isaac G. Robie, formerly superintendent of the Acme Coke Works, has been appointed mine inspector of the Fifth Pennsylvania Bituminous District to fill the vacancy caused by the resignation of Mr. Charles Connor, who went to Nova Scotia to take a position with the Dominion Iron and Steel Company.

Capt. James Wilcox, who has been with the Arcadian Mine near Hancock, Mich., since the company was formed, has resigned, his resignation to take effect April 1st, when he will become superintendent of the Mass Mine. Mr. Wilcox was mining captain for the Calumet & Hecla Company for a number of years.

Mr. J. L. Greatsinger, of Duluth, Minn., who was elected president of the Minnesota Iron Company on the resignation of Mr. Don H. Bacon, after having served for 11 years as master mechanic and president of the Duluth & Iron Range Railroad, has been elected president of the Brooklyn Rapid Transit Company, to succeed Col. Clinton M. Rossiter. Mr. Greatsinger will reside in Brooklyn.

Mr. L. M. Rice, now of Seattle, Wash., who was once in charge of several surveying parties for the Canadian Pacific Railway Company in the Boundary District of British Columbia, is now in the district again making a survey for the electric tramway between Greenwood and Phoenix. It is intended that the tramway shall transport ore from the mines at Phoenix to the smelters at and near Greenwood, as well as passengers.

Mr. E. J. Wilson will act as superintendent of the Standard Pyritic Smelting Company plant at Greenwood, B. C. He was formerly metallurgist in charge of the furnaces of the Boston & Montana, Great Falls, Mont. During the time James Breen was manager of the Northport smelter he was the Eastern agent of the smelter at New York. He has also been superintendent of the Omaha & Grant smelter at Vellardena, Mex., and Monterey Smelter at Monterey, Mex.

Mr. Samuel Higgins, superintendent of motive power of the Lehigh Valley Railroad, has resigned in order to accept a similar position with the Union Pacific as successor to Mr. J. H. McConnell, Mr. Higgins will be succeeded by Mr. H. D. Taylor, who is at present connected with the Calumet & Hecla Mining Company, but who was at one time a mechanical engineer and master mechanic of the Wilkesbarre shops of the Lehigh Valley. The headquarters of Mr. Taylor will be at Bethlehem, Pa.

OBITUARY.

Nelson O. Whitney, professor of railway engineering in the University of Wisconsin, died suddenly of heart disease at Madison, Wis., March 18th. He was a native of South Carolina, a graduate of the University of Pennsylvania, and had been with the University of Wisconsin 10 years.

Aaron G. Perham, a wholesale coal agent of New York City, died March 19th from acute indigestion at his home in Brooklyn. He was born in 1844 in Pleasant Mount, Wayne County, Pa. He entered the wholesale coal business in Philadelphia and in 1875 took up the same business in New York City. He leaves a widow, two daughters and one son.

Gen. Ario Pardee, Jr., son of the late A. Pardee, a prominent anthracite mine operator, died on March 16th at his home in Chelton Hills, a suburb of Philadelphia, aged 55 years. Gen. Pardee was a brother of Calvin and Frank Pardee, who are extensive coal operators in the Hazleton and Upper Lehigh region of Pennsylvania. He had large interests in the various collieries of A. Pardee & Company, but had not taken an active part in their management. In 1861 his father fitted out a military company, with which Ario served. He was brevetted Brigadier General in 1865.

SOCIETIES AND TECHNICAL SCHOOLS.

University of Michigan.—Beginning with June of this year the university will confer but one degree, that of bachelor of arts, on graduates from the undergraduate courses. The degrees of bachelor of philosophy, bachelor of science and bachelor of letters, which have been conferred for more than 20 years, are to be dropped.

University of Wyoming.—The legislature of Wyoming has made an appropriation to complete the Science Hall and to enlarge the campus. The new building will contain the geological museum and preparation rooms, the botanical and chemical laboratories and a large lecture room. A central heating plant for all the buildings will also be built.

Physical Society of London.—The following were recently elected president and members of the council of the society: President, Prof. S. P. Thompson; vice-presidents, T. H. Blakesley, C. Vernon Boys, Prof. J. D. Everett and J. Walker; secretaries, H. M. Elder and W. Watson; foreign secretary, Prof. R. T. Glazebrook; treasurer, Prof. H. L. Callendar; librarian, W. Watson; other members of council, Prof. H. E. Armstrong, W. R. Cooper, G. Griffith, E. H. Griffiths, R. A. Lehfeldt, S. Lupton, Prof. J. Perry, A. W. Porter, W. A. Price, and R. Threlfall. Prof. Willard Gibbs, of Yale University, and Dr. Rudolph Koenig, Paris, were elected honorary fellows.

Montana Society of Engineers.—At the regular meeting on March 9th, in Butte, 19 members and 2 visitors were present. Messrs. Richard Austin Lacy, Steven P. Wright and Fred T. Greene were elected members.

Resolutions on the death of David W. Hardenbrook were adopted.

The committee appointed to revise the constitution and by-laws so as to permit the election of junior members made its report.

Mr. Walter H. Weed entertained the society with an interesting talk of the mines recently visited by him in Mexico. The geological conditions around Chihuahua and Parral, together with many interesting features of the country, were described in a very entertaining manner.

Engineers' Club of Philadelphia.—At the meeting on March 2d 79 members and visitors were present.

Mr. Benjamin Franklin exhibited and described a couple of lantern slides which were alluded to by him in connection with his paper presented at the last meeting on "Standards of Land Measurement."

Under the title "Some Notes in China by an American Engineer," Mr. F. Lynwood Garrison delivered an address in which he described, with the aid of lantern illustrations, some observations which he had made during a recent visit to China. He stated that at last China appears to be opening to modern civilization, and that the opportunities for progressive development, especially in the line of engineering, seem to be very great.

The principal topographical features of the country were described, and its mineral and agricultural resources were pointed out. The only railroad now in operation is in the northeastern part of the Empire, although a syndicate of New Yorkers has a concession to build 700 miles to connect some of the principal cities in the eastern part. The Grand Canal, which was formerly one of the principal means of transportation, is becoming disused on account of the increase in the coast trade by foreign steamers.

American Chemical Society—New York Section.—At the meeting on March 8th Dr. C. A. Doremus presided. Prof. James Locke, of Yale University, read a paper on "Some Gradations in the Properties of the Alums," which referred especially to the physical properties and constants of these salts and their mathematical relations.

In the absence of Mr. John P. Street, his paper on "A Method for the Determination of the Availability of Organic Nitrogen in Commercial Fertilizers" was read by the chairman. The method consists in digesting the nitrogenous material with a solution of potassium permanganate and alkali, and distilling off the ammonia. Results were given on 84 different grades of crude fertilizer material and fertilizers. The results are not absolute, but relative. In treating complete fertilizers, all soluble salts are previously washed out to prevent any interference with the action of the permanganate.

A. C. Langmuir gave results of an investigation of the indicators used in the "Ferrocyanide Method of Determining Zinc." He finds that uranium acetate is an unreliable indicator in presence of small amounts of hydrochloric acid, while the nitrate in 3 or 4% solution is much more satisfactory.

Dr. Langmuir described a short method for analysis of spelter, depending substantially on the following procedure: Cover the weighed quantity of spelter with water, add a few drops platinic chloride, and then sufficient sulphuric acid to start a moderate rate of solution. The zinc dissolves, leaving lead in the metallic state. Filter, dissolve the lead in nitric acid on the filter and convert to sulphate, as usual. The solution of zinc may then be at once titrated for iron by permanganate solution, after which cadmium is precipitated by hydrogen sulphide.

A simple form of vacuum pump for laboratory use was described by Mr. I. Langmuir. The valves in an ordinary bicycle foot pump are reversed and a check valve added. The arrangement is very inexpensive, not over $1.50, and where water pressure is not available for a vacuum pump, it is recommended as convenient and efficient, a liter flash being exhausted to 28 in. vacuum by 15 to 18 strokes.

It was stated by the chairman that the committees appointed to prepare for the anniversary meeting had apppointed April 12th and 13th. Papers on the history of the society and a census of the membership were in preparation, and a subscription banquet was planned for the evening of the 13th. An effort will be made to have all the surviving charter members present.

INDUSTRIAL NOTES.

The Chicago & Alton Road has placed a contract for 4,000 tons of bridge work with the American Bridge Company.

A. Klipstein & Company, of New York City, are furnishing their customers chloride of lime, electrolytic, in air-tight packages of 500 lbs.

The General Electric Company, of Schenectady, N. Y., recently secured contracts from the Sydney, N. S. W., Tramways Corporation for 3 1,500-Kw. 6,000-volt generators and the equipment of 5 rotary converter sub-stations of 500 Kw. and 1,000 Kw. each.

Two of the largest exhaust heads in the country, one 30 in. and one 36 in., were recently installed by the Edison Electric Illuminating Company, of Boston, Mass., in its new station. They are of the Sturtevant centrifugal type, built by the B. F. Sturtevant Company, of Boston, Mass.

The Jackson hand power rock drill is now manufactured by H. D. Crippen, of New York

City, sole licensee. The manufacturer has issued catalogue No. 13, a neat and attractive pamphlet of 24 pages which describes the drill in detail and contains numerous testimonials from users. It is claimed that the drill is made of best materials, will put in a hole in any direction with equal efficiency and can be set up and worked by one man. Copies of the catalogue may be had printed in French and Spanish, as well as English.

The Michigan Supply Company has been incorporated at Houghton, Mich., with $50,000 capital.

The brick yards will be located at L'Anse, and it is said will have a capacity of 75,000 brick daily. The main office will be at Houghton. The officers are J. W. Black, president; T. H. Robinson, vice-president; Philip R. McKernan, secretary and treasurer, and V. A. H. Robinson, superintendent. These gentlemen and J. H. Rice, cashier of the Houghton National Bank, constitute the board of directors.

The Wefugo Company, of Cincinnati, O., states that it has recently secured the following orders for water softening plant as feed water purifiers. The rated capacities of the plants in gallons per 24 hours are: Marion Steam Shovel Company, Marion, O., 28,800 gals.; National Tube Company, Versailles, Pa., 43,200 gals.; Carnegie Steel Company, Howard Axle Works, Homestead, Pa., 240,000 gals.; Distilled Ice and Cold Storage Company, Los Angeles, Cal., 14,400 gals.; Clinton Iron and Steel Company, Pittsburg, Pa., 192,000 gals.; Cambria Steel Company, Franklin Furnaces, Connemaug, Pa., 1,440,000 gals.; American Steel Hoop Company, Isabella Furnaces, Etna, Pa., 480,000 gals.; Pressed Steel Car Company, McKees Rocks, Pa., 288,000 gals. The company says it has a total daily rated capacity of water softening plants in service of over 10,000,000 gals. for boiler feeding purposes.

The Denver Engineering Works Company, of Denver, Colo., has issued a bulletin, No. 1,004, describing the improved Cammett concentrator. The pamphlet is completely illustrated by halftone cuts showing the concentrator in its various parts, and giving a clear idea of its construction. Complete dimensioned drawings of both table and countershaft are also given, together with general data, so that one designing a mill and desiring to show a Cammett table in the plans will find all necessary information. The most noticeable improvements made recently on the concentrator are in the head motion and the pulp distributing box. The bulletin includes working drawings of classifier, with the dimensions of various sizes conveniently tabulated. It also includes a classified list of the more important minerals, together with their specific gravities, which will be found a useful reference for men engaged in ore concentration. This bulletin will be forwarded by the company to anyone requesting it.

TRADE CATALOQUES.

The Silverton "Standard," of Silverton, Colo., recently issued a special illustrated supplement containing many views of scenery and of mines and mills in the "Silver San Juan." The production is a credit to the paper, but no more than the character of its regular issues, which give facts with little tendency to boom.

Hydraulic tools, cranes and machinery are described in a handsome 95-page pamphlet sent out by R. D. Wood & Company, of Philadelphia. The catalogue shows triple expansion and centrifugal pumps, the Shem hydraulic valve, pulpit valves, beam shears, punches, flanging presses, bending presses, intensifiers, hydraulic fixed and portable riveters, hydraulic jib cranes, gas works aparatus, etc.

The Buffalo Pitts Company, of Buffalo, N. Y., has issued its 1901 catalogue of portable and traction engines. The traction engines shown in the catalogue are built to burn coal or wood and are of several sizes, 13, 16, 20, 25 and 30 H. P. The company's portable engines are of 6, 8, 10 13, 16, 20 and 25 H. P. All engines have locomotive type boilers with features that make them peculiarly suited for the work to be done.

Catalogue No. 41, an illustrated 104-page pamphlet issued by Arthur Koppel, of New York City, is entitled "Narrow-Gauge Railway Materials." It is printed in Spanish and English. The pamphlet gives tables showing the amounts of rails and rail fixtures of different weights necessary to lay a mile of track. Also specifications of various rails, and contains illustrations showing various types of dump and rack cars.

A third edition of the booklet, Bulletin J, relating to "Mechanical Draft; What It Is and What It Does," has just been issued by the B. F. Sturtevant Company, Boston, Mass., of whom it can be obtained upon application. It illustrates applications under both the forced and induced methods and shows the Sturtevant Blower Works as they now appear without a chimney, a fan being employed exclusively for producing the required draft for about 400 boiler H. P.

The Joshua Handy Machine Works, of New York City, has published the 5th edition of its catalogue No. 3 on mining machinery. In its present form the catalogue is a neatly illustrated pamphlet of 72 pages containing all the useful features of the catalogues sent out by the Hendy people. The catalogue contains descriptive price-lists of water gates, pipe and pipe fittings, giants, hydraulic elevators and derricks; also retorts, condensers and melting furnaces and water motors. The pamphlet also contains many tables of use to the hydraulic miner and brief summaries of the methods used in hydraulic mining.

Beall Brothers of Alton, Ill., have issued their 40th annual catalogue of miners' tools and supplies. They call attention to the high quality of the steel used in their "Alton" picks for coal and metal miners, and in their sledges, hammers and coal wedges. The "Alton" post and grip drills for coal mining are stated to be simple, cheap and light, yet strong, easy-working and durable. All parts are made in duplicate. The company also makes "Alton" blasting tools and miners' squibs and oil. Also shovels and forks, hand axes, hatchets, miners' lamps, etc., and many supplies such as are carried at a company store.

MACHINERY AND SUPPLIES WANTED.

If any one wanting machinery or supplies of any kind will notify the "Engineering and Mining Journal" what he needs he will be put in communication with the best manufacturers of the same.

We also offer our services to foreign correspondents who desire to purchase American goods of any kind, and shall be pleased to furnish them information, catalogues, etc.

All these services are rendered gratuitously in the interest of our subscribers and advertisers; the proprietors of the "Engineering and Mining Journal" are not brokers or exporters, and have no pecuniary interest in buying and selling goods of any kind.

GENERAL MINING NEWS.

ARIZONA.

Graham County.

Arizona Copper Company, Limited.—This company reports that the production of its mines at Clifton for the month of February was 1,023 short tons of copper.

CALIFORNIA.

Amador County.

(From Our Special Correspondent.)

Argonaut.—This mine, 1 mile northwest from Jackson, has been closed down on account of the water that has accumulated in the shaft, but as this is being rapidly pumped out, work will soon start again.

Bay State.—It is reported that this mine, together with the Rhetta Claim in Plymouth District, about 4 miles north of Plymouth, has been bonded to a Boston syndicate, and that work will be resumed at an early date. The property is well equipped with machinery, and a great deal of development work has been done.

Central Eureka.—During 26 days in February, 1,300 tons of ore from this mine were crushed, which netted $22,000. About 50 tons are crushed daily. The property is ½ mile south of Sutter Creek.

Kirkwood.—The shaft at this mine, 2½ miles south of Jackson, is down 300 ft. The 4-ft. ledge is said to be rich in free gold. Cross-cutting will commence on the 300-ft. About 100 skips of water are hoisted every 24 hours.

Calaveras County.

(From Our Special Correspondent.)

Melones Tunnel.—Connection has been made between this tunnel and the South Carolina tunnel on the other side of the mountain. At the end of the South Carolina Tunnel a winze was sunk 220 ft. and the Melones Tunnel 4,000 ft. in length, opened into this winze according to survey, within 2 in. When the dam is completed the 120-stamp mill can be worked steadily for several years on the low-grade ore.

Tenderfoot.—This claim, near Murphys, owned by D. C. Shepherd & Brothers, of Stockton, Cal., is to be developed on a large scale. Some very rich ore has been taken from this ledge.

El Dorado County.

Eureka Slate Quarry.—Two hoists are in operation at this quarry at Kelsey, and 2 more will soon be added. Some very fine roofing slate is being produced, and it is stored until the roads to Placerville railway station are in better condition. About 35 men are employed.

Springfield.—The new hoist being erected on this property, 3 miles south of El Dorado, by the Union Gold Mining Company, which is operating the mine will enable the company to sink 3,000 ft. The shaft is now down 1,600 ft. and several pay shoots have been developed. There is said to be a great deal of ore in sight.

Mariposa County.

(From Our Special Correspondent.)

Columbus.—As soon as wood can be hauled in, the ore from this mine, on the Merced River, will be milled at the Tyro Mill, which has been leased. About 20 men are employed.

Garibaldi.—The shaft on this property at Bull Creek is down 250 ft. and is having trouble with water. Fourteen men are employed on development work.

Nevada County.

(From Our Special Correspondent.)

Federal Loan.—Some rich ore is being mined on this property, on Deer Creek, 4 miles east from Nevada City. One small shipment recently yielded $150 per ton.

Independence.—The shaft at this mine in Willow Valley District east of Nevada City is to be pumped out, and the property examined with the view of resuming development.

James O'Brien Land.—Five prospect holes from 28 to 76 ft. in depth have been drilled on this land, which comprises 2,000 acres, by a local company. The gravel is said to average 15c. per cu. yd.

Jenny Lind.—The 10-stamp mill at the Gold Point Mine, east of Grass Valley, has been purchased and will be removed to the property on Slate Creek, where it will be refitted with modern appliances. It is reported that a rich ore body has been encountered.

Placer County.

(From Our Special Correspondent.)

Pioneer.—A large force of men is working on this property, 1 mile northwest of Damascus, and the mill is running steadily. J. D. Sullivan is superintendent.

Plumas County.

(From Our Special Correspondent.)

Jamison Mining Company.—This company employs about 60 men in the mine and mill, 2 miles south of Johnsville. The mine is well equipped with modern machinery, which is operated by water power under 500 ft. pressure. S. W. Cheney is superintendent.

San Bernardino County.

(From Our Special Correspondent.)

Hidden Hills.—This group of 5 claims on the eastern slope of Providence Mountains, about 20 miles north of Fenner Station, at an altitude of 4,000 ft., will be reopened and operated by Dr. Reese and Monahan & Murphy, of Needles. The old workings consist of a 165-ft. shaft, which is said to have produced $36,000 in gold.

Peacock.—These copper claims south of Lavick in the Old Mountain District, will be opened up by a St. Louis syndicate whose representative is on the ground. The deposit is said to be very large. The intention is to concentrate the ore and ship to the smelter.

Roosevelt Mining and Milling Company.—This company has been organized, with a capital stock of $200,000, with the following officers and directors: Sherman Washburn, president; Jas. E. Parker, vice-president; E. E. Selph, secretary, and V. L. Carroll, C. R. Emery and P. H. Ehlers. The company will start development work at once on 2 silver-lead claims located about 11 miles from Ludlow. C. R. Emery is superintendent.

Turquoise.—This old mine, situated about 62 miles northeast of Manvel, has been purchased by Tannenbaum & Company, of New York. A small force of men is at work picking and sorting the turquoise.

Shasta County.

(From Our Special Correspondent.)

Midas.—At a depth of 310 ft. a station has been cut and a cross-cut driven to the ledge. A large amount of ore is in sight above the 4th level, enough to supply the 20-stamp mill for many months. About 150 men are at work. The mine is located at Harrison Gulch.

North California Investment Company.—The stockholders of this company, which is operating the Black Diamond copper claims on Stillwater Creek, have elected the following officers: C. Dobblestein, president; Geo. Bayha, vice-president; H. Seufert, treasurer, and J. E. Isaacs, secretary, while Beda Becker continues as managing director. Several thousand feet have been driven on the tunnel, which is being run from both the western and the Pit River sides of the hill, and the work goes steadily on.

Sierra County.

(From Our Special Correspondent.)

Alta Sierra Gold Mining Company.—This company has let a contract to extend the present tunnel at the Keystone Mine 1,000 ft.; work to be completed within 8 months.

Mammoth Springs.—Twelve men are employed at this drift mine on a branch of Kanaka Creek, east of Forest City. Good pay gravel is being taken out. R. P. Mott is superintendent.

Siskiyou County.

(From Our Special Correspondent.)

Conzetti.—At this claim, 1 mile west from

Summerville, piping has begun. The capacity has been doubled since last year.

Deep Bank.—Piping has begun at this mine on the South Fork of Salmon River, 23 miles from Trinity Center. The gravel banks are 200 ft. high. Water is brought in through a 2½-mile ditch and flume. The season lasts about 6 months.

Dewey.—On this property in the Gazelle District the ore shoot has been found to be 70 ft. wide and over 1,000 ft. long. The average value of ore shipped to the smelter has been $53 per ton. The extension of this mine, which is owned by other parties, is said to be equally promising.

Helena.—About 40 tons of ore are milled per day, at this mine at Callahans. The cyanide plant run in connection with the mill is doing well. The capacity of the works can be increased to 50 tons per day. W. S. Chapman is superintendent.

Kunz Flat.—This hydraulic mine at Hamburg on the Klamath River, has been running steadily for the past 3 months. A large force of men are employed, with a full head of water piping a 50-ft. bank of gravel which contains gold from the top down. Two rich clean-ups have already been made. John S. Lowden, Jr., is manager.

Prairie Tunnel.—Another contract for driving 100 ft. has been let to John Peterson and others. The Prairie Tunnel is a crosscut on the Ben Butler property at Mineral Point.

Red Mountain Mining Company.—Mr. A. A. Brown, resident manager, is now at Pittsburg, Pa., perfecting arrangements to resume operations on the Red Mountain Tunnel about May 1st.

Silver Lake Mill.—The new machinery for this plant is being slowly installed.

Sunlight Mining Company.—At the Evening Star a large force of men is breaking good smelting ore, which occurs in large bodies and will be shipped as soon as the roads are open.

Summerville.—At this hydraulic mine, which extends 5 miles along the South Fork of Salmon River at Summerville, another giant is to be added, and a full crew put on to operate the mine day and night until the close of the season, about August 1st. The ditch is 15 miles long.

Sunnyside Extension.—Thirty men are employed blocking out ore for milling purposes during the coming season. Some high-grade ore is also being mined and sacked.

Tom Moore.—A new boiler and compressor have been put in place at the Tom Moore and the force has been increased to 20 men.

Trinity County.

(From Our Special Correspondent.)

Bloss & McCleary.—This hydraulic property near Trinity Center is being operated by the Sykes Mining Company, which has purchased the adjoining claims. This will give the company the much needed ground to work to advantage. A new pipe line is being laid for a second giant.

Boyce Ranch.—On this property near Trinity Center, an Illinois company is erecting a Urie dredger which is nearing completion. The boat for the dredge has been launched and has been named "Trinity." Fifteen men are employed.

Sweepstake.—Continuous favorable developments of this gravel property, some 4 miles northwest of Douglas City, is attracting more than usual attention. The present openings, consisting of numerous cuts, and several tunnels entering the rim-rock of this ancient channel at considerable depth, contain rich pay gravel showing dark-stained, coarse gold from surface. The bed of this channel has not been reached. The gravel is of a rather medium size, but is unlike other gravels within many miles of the locality. All the pebbles are decomposed and extremely friable.

Tuolumne County.

(From Our Special Correspondent.)

A number of teams are busy hauling fuel for the hoisting works and 20-stamp mill of the Mount Jefferson Mine at Groveland.

It is reported that an exceptionally valuable discovery has been made in the Longfellow Mine. This find is said to be from 4 ft. to 8 ft. wide, indicating a milling value of over $400 per ton.

Brown.—This mine, located near Robinson's Ferry, together with all the improvements, comprising a 10-stamp mill, etc., reverts to the owner, the San Francisco Company having forfeited its bond.

Confidence.—The mill is running steadily on good rock. The mine has been explored below all the old workings and rich ore has been found. The property is located 13 miles northeast from Sonora.

Continental.—The tunnel at this mine at Columbia is now in over 1,000 ft. and C. B. Taylor, who holds the bond on the property, expects to strike the ore shoot at any time.

Dreisam.—At this mine at Arastraville an ore body has been cut on the 400-ft. level. The rock is said to be high grade.

Goldwin.—At this mine near Jamestown the main shaft is down 365 ft. Sinking will be continued to the 400 ft. before drifts are run. The grading for the mill foundations has been completed and as soon as the roads improve so that the balance of the machinery can be hauled in the plant will be rushed to completion.

Hope.—The mill at this mine, ½ mile east from Sonora, has closed down on account of the break in the ditch at Phoenix Lake. A large force of men has repaired the ditch and water is now running again.

Li Hung Chang.—This quartz claim in the Jawbone District has been purchased by Barrell & McGovern. The ledge is 2½ ft. wide and the ore, which was worked by the former owner with an arrastra run by water power, is fair-grade. A free water right goes with the mine.

Rawhide.—On account of the heavy rains the pumping plant has been constantly employed. There is said to be several hundred feet of water in the main shaft. W. D. Hawley, of Grass Valley, has been appointed superintendent.

COLORADO.

Clear Creek County.

(From Our Special Correspondent.)

Electric Power.—Two new companies, the Cascade and Seaton, have received franchises from the city of Idaho Springs for supplying lights and power. It is intended to also run wires to the mines and mills.

Colorado-California Silver Mining and Milling Company.—This company, operating the Crown Point Mine and Wilkie Mill at Idaho Springs, has bought the Silver Age Mine and mill for about $100,000. The Silver Age Mill will be in running shape within 10 days. Four Bartlett tables have been added. A new mill dam is in on Clear Creek and a water wheel will drive the mill machinery and the large compressor for the mine. A pipe is laid from the mill to mine, about 2 miles, and compressed air is operating a pump at the mine. Water in the west shaft is being pumped with a view of continuing the shaft deeper and then extending levels into the Silver Age and Franklin Mines. Work in the tunnel will probably be pushed to the east to get into the company's new ground. The Crown Point, 2 miles west of the tunnel, is on the same vein. These 2 gasoline engines have been added and the water is being taken from the lower workings. A cross-cut has been driven from the 3d, 4th and 5th levels into the foot wall. At 30 ft. 3 ft. of smelting ore carrying higher value than anything yet opened, is reported opened. Drifts will be run and levels driven on the lower grade streaks for over 1,000 ft. With 2 mills operated 100 tons of crude ore per day can be handled. In the Franklin-Silver Age Shaft the new Smucker drills are to be tested in sinking and drifting.

Little Mattie Mining and Milling Company.—The Decatur, Mattie, Republic, Silver Glance and Apex groups have been consolidated and water is now being taken from the joint shaft of the Republic and Mattie mines. The levels above 600 ft. are in good condition. The seventh level will be driven a total distance of 3,000 ft. The pocket from the shaft produced $1,000,000 from the Republic ground and $800,000 from the Mattie ground. The Silver Glance, a short distance west, produced $600,000, while the ground to the east has never been prospected. The company rebuilt the Mattie Mill and has excellent water power. Compressed air is pumping out the lower workings. The Mattie was closed down several years ago because of an injunction secured by the Republic Company which proved in court that the Mattie had extracted $400,000 from Republic ground. Present plans provide for sinking and drifting along the vein on both sides of the Mattie Shaft.

Seaton Mining and Milling Company.—This company, which has been working the Foxhall Tunnel for a year, has started 2 winzes 400 ft. apart at each end of the big ore shoot. A raise will also be put through to surface, 400 ft., and the new shaft will continue down with the ore body. The company has never been able to determine its vein where cut in the Newhouse Tunnel 1,700 ft.

Custer County.

Aburdix.—This company, operating a group of claims at Querida, has recently installed 2 new boilers and a No. 7 Cameron pump, and will sink the main shaft to 500 ft.

Bassick.—This gold mine at Silver Cliff continues in operation, working about 40 men in the mine and mill. Shipments continue regularly, several 8-horse teams being engaged.

Rhodes.—These properties at Rosita are being extensively developed. A 300-ft. 2-compartment shaft is being sunk, with 3 shifts employed.

Gilpin County.

(From Our Special Correspondent.)

Spring generally brings a revival in mining interest. Inquiries are being made about the Pyrenees, Missouri, Dyke, Calhoun, Tigress, Newfoundland and other local properties. This winter and spring less snow than usual has fallen and to this fact more than to others is attributed the earlier attention of outsiders.

Mining Deeds and Transfers.—F. E. Kirk et al., 2/3 interest in Cardela Tunnel in Bay State District; R. C. Benight et al. to C. A. Bourk, ¾ interest in Cui Bono Lode in Lake and Russell Districts; W. R. Backus et al. to J. G. Stenier, 2 years' lease and bond for $3,000 on Yahoo and Revenue Lodes in Gregory District; W. R. Backus et al. to J. G. Stenier, 2 years' lease and bond for $6,000 on Senator and Senator Extension Lodes in Gregory District.

Boston & Denver Consolidated Mining and Milling Company.—L. H. Stockbridge, of Central City, has been appointed agent and manager and will renew heavy operations. John Curry will have charge of the underground work.

East Boston.—Sinking is being carried on with double shifts on a lift of 100 ft. below the 300-ft. level and indications are improving. W. H. Stimpson, Central City, is in charge.

Gowers Mines Syndicate, Limited.—Sinking has been started at the Running Lode, with intention of going down 100 ft. below 500-ft. level. Last month a dividend of $10,000 was sent to the English stockholders. T. Dunstone, Black Hawk, is superintendent.

Grand Central Mining Company.—A good strike has been made in the 200 level 500 ft. west of the shaft. The ore is from 2 ft. to 3 ft. wide and assays 9.4 oz. gold per ton. Regular shipments of milling ore are being made. D. McMaster, Central City, is in charge.

Old Town.—A new engine has been installed and shaft building enlarged. Sinking is going on at 400 ft. Manager G. Kimball, Jr., of Russell Gulch, reports good ore being opened up.

Phoenix-Burroughs Consolidated Gold Mining Company.—The shipments for February were 372 cars, hauled by Gilpin Tramway Company, a tonnage of 3,162 tons, all of which was milling ore except 8 cars of smelting ore. Manager P. McCann says that shipments will be heavier from this on. The working force numbers about 175 men.

Practical Gold Mining and Land Company.—Kansas City parties form this company, who have purchased the Silver Tip and Klondyke Lodes in Enterprise District. A new shaft-building and plant of machinery will be put up on main shaft and a tunnel will be run from Dory hill, which will cut the veins at depth of 600 ft. S. O. Prescott, Black Hawk, Colo., is manager.

Senator.—Denver parties are working this property and are sinking the shaft after considerable dead work in clearing out and retimbering shaft. They are down 185 ft. and have a nice streak of smelting ore in sight. J. H. Martin, Black Hawk, Colo., is manager.

Two Forty Mining Company.—Smelting ore recently shipped gave values of 7.25 oz. gold per ton. The working force is being increased. Col. H. E. Babcock, Central City, is manager.

Lake County—Leadville.

(From Our Special Correspondent.)

A Y & Minnie.—In addition to some crude zinc and lead ore shipped, 100 tons of sulphide ore are turned over to the concentrating mill every day.

Bug Mining Company.—Eastern men are at the head of this concern operating near Birdseye and will start up again April 1st. A good body of low-grade ore has already been encountered.

Caribou Mining Company.—This was formerly the old Bison Mine of the Leadville Basin. Geo. Campion, after fighting water, has opened up at 560 ft. lead and iron ore from which shipments of 50 tons a day are made.

Dinero Leasing Company.—After 2 months' battle with water the company is arranging to sink the shaft another lift of 50 to 100 ft.

Highland Mining Company.—The shaft on the Highland Chief is down 400 ft. A contract has been let to sink it 200 ft., at which point prospecting will be conducted.

Lake Park.—The Hap Hazard, Nanticoke and several others showing good veins are to see much exploration and development this season and in addition a number of claims now lying idle are to be explored. The need in that locality is a big concentrating mill, as there are thousands of tons of low-grade ore that could then be handled as well as the higher grade stuff.

La Plata.—Only a little work in the upper levels by lessees has been going on upon this Rock Hill property for some years. It is owned by English capitalists and Mr. T. A. Rickard is now here making an examination of the property for the English stockholders. It is believed that there is some idea of going after the lower contacts, but no information has been given out.

Maple Street Mining Company.—This is a new shaft in the extreme western part of the city and in entirely virgin ground. At a depth of 400 ft. the bottom is still in wash. They are very hopeful of catching the downtown ore shoots.

May Queen.—A new shaft is down on this

property on the western slope of Carbonate Hill, which at 250 ft. should cut an iron body.

Nayr Mining Company.—This new company has secured a long time lease on the Old White Cap Mine and adjoining territory on Iron Hill and will sink the White Cap shaft 200 ft. to the sulphide zone, making it 760 ft. deep. The company is after the A Y & Minnie ore shoot. The upper contacts of the property are worked by lessees who are shipping 300 tons a month of very good carbonate ore. Chicago men are behind the new deal.

New Fryer Hill Mining Company.—Shipments will start by April 1st. In a drift from Buckeye No. 1 a big iron body is cut, besides lead ore.

New Leadville Home Mining Company.—Articles of incorporation of this company, which succeeds the old Home Company, give the capitalization at $2,000,000 for the 2,000,000 shares. The incorporators are W. A. Polkington, E. J. McCarty, J. M. Maxwell, W. K. Burchinell, Dennis Sheedy and Arthur Lumsden. Shipments are 350 tons a month.

Ollie Reed.—This new proposition, adjoining the New Monarch on the east, has the shaft down 300 ft. Drifts are running along stringers of galena, some of which run 60% lead and 2 oz. gold.

President.—Lessees have opened up the extension of the gold ore shoot from the Ballard Mine at about 400 ft. and shipments average 25 tons a day. Much of the stuff averages 1 oz. to the ton.

Revenue Mining Company.—Some months ago the Revenue was forced to close down on account of water drowning the station pump at 400 ft. Before drowning the pump, however, Manager Estey put the check valves in good condition and gave all parts a heavy dose of oil. When the company was ready to start this week steam was turned on and in a few moments the pumps, under 80 ft. of water, started, and in an hour were handling 400 gal. a minute. In 48 hours the lower station was recovered. The company will at once prospect the lower contacts.

Small Hopes Mining Company.—The company is now shipping 240 tons a day from its various properties, but most of the ore comes from the R. A. M. Shaft.

Vega Group.—Philadelphia people are at the head of this new gold belt proposition. A new deep shaft is being sunk north of the Diamond Group, making this the furthest northeast gold belt development in the district. This shaft may have to go over 1,000 ft. to cut the contact.

Montrose County.

(From an Occasional Correspondent.)

La Sal Copper Mining Company.—This company, operating at Cashin, on La Sal Creek, 80 miles west of the railroad station of Placerville, is completing its mill, which will start about April 15th. The plant will use the calcium-hyposulphite leaching process, which promises very satisfactory results, both from a metallurgical and financial point, in the treatment of the low-grade copper-silver ores.

Saguache County.

San Luis Valley Mining and Land Company.—This company owns the Independent Mine at Crestone. It is situated in the Baca land grant. The company has erected a large stamp mill with a reported capacity of 300 tons of ore daily.

San Isabella Mining and Milling Company.—This company has erected a large mill near Crestone, but outside the Baca grant. It will run on free milling gold ore.

Teller County—Cripple Creek.

(From Our Special Correspondent.)

El Paso Consolidated Gold Mining Company.—This company is paying the stock dividends to the Kimberly stockholders as fast as the old stock certificates come in.

Golden Cycle Mining Company.—Work is being pushed on the installation of a new hoist in the Legal Tender Mine. It is understood when this is in place that the daily output will be from 150 to 200 tons.

Little Nell Gold Mining Company.—Active work is being carried on. The winze which lessee Harcourt is sinking from the 100-ft. level is proving very satisfactory. Other lessees on Little Nell ground are pushing ahead to catch the vein which Harcourt has cut.

Mary McKinney Mining Company.—Work has been resumed in the lower levels of the Mary McKinney Mine, it having been interfered with by a flow of water there.

Mary Casheen Mining Company.—A contract has just been let to sink to at least 925 ft. The promising developments in the adjoining claims have led the company to do this. The capitalization was recently raised and considerable new treasury stock put on the market.

Mint Gold Mining Company.—Considerable work is being done on this property on the south spur of Gold Hill. The shaft is about 450 ft. deep and is still going down. Work is also in progress in an upraise in the Pointer to connect with the shaft. The property has recently been equipped with a 10 by 14 fraction hoist purchased from the Mine and Smelter Supply Company. A Leyner compressor is also in place. A large ore house is being constructed. Mr. Foley is superintendent.

Modoc Mining and Milling Company.—Active work is being carried on to reach the 1,000-ft. level, where it is thought the rich ore shoot opened in the Last Dollar will be met. The Modoc is located on the saddle between Bull Hill and Battle Mountain, a short distance south of the Last Dollar Mine.

CONNECTICUT.

Hartford County.

A company known as the Lenox Mining Company has leased the old Newgate Prison property in East Granby for a term of 50 years, and will begin work about May 1st. A correspondent of the "Springfield Republican" says: "The old copper mine was first operated before the Revolution, and was then considered of considerable importance. During the Revolution and the war of 1812 it was used as a prison. Its use lapsed with the building of the Connecticut state prison in the '40's. In 1831 and 1832 it was worked by the Phoenix Mining Company, and again in 1851 and 1852 by another company. Considerable interest has been displayed by prospectors in the copper deposits of the vicinity during the past few years. It is hoped that the present company may be successful in ascertaining the exact value of these deposits. The completion of the Tariffville Branch road will offer the company a convenient shipping depot for the ore, which would have to be teamed only about a mile. The mine was worked by the convicts in the old days, and is in a walled inclosure of 20 acres. Along the wall are watch towers, and within various buildings, including the prison proper. The mine entrance is situated in one of the buildings. The lower levels are full of water and have not been pumped out for years."

MICHIGAN.

Copper—Houghton County.

Champion Mining Company.—This company has let the contract for its new mill on the lake shore west of the Baltic and adjoining the new Trimountain millsite to the Wisconsin Bridge and Iron Works of Milwaukee. The mill will contain 4 heads and will be 170 by 215 ft., with the usual boiler and pump houses. It is to be completed this year.

(From Our Special Correspondent.)

C. H. Krause, superintendent of the Tamarack-Osceola stamp mills, has invented a hydraulic mortar cleaning device to obviate the necessity of shutting down a stamp head 2 or 3 hours at frequent intervals in order to remove by hand the "roundheads" of mass copper. These small masses vary from the size of a hickory nut up to that of a large orange and are those which escape the eye of the head tender as the rock is fed under the stamp. By Mr. Krause's device a jet of water is fed up under the head through a 6-inch opening by a 4-inch pipe. This jet washes away all rock and sand which might settle into the opening, while the copper is so much heavier that it tumbles of its own weight in spite of the opposing stream of water. Below the mortar is a valve which can be opened to let the copper fall into a trough or box for removal, while above this valve is a rod working through a stuffing-box, so that the copper in the 6-in. pipe can be loosened if the pipe becomes choked.

Calumet & Hecla.—The pipe and pattern house recently gutted by fire has been repaired and is used for pipe and machine shop alone. A pattern shop has been fitted up in the basement of the planing mill.

Copper Range Railroad.—The survey of the extension from near Belt main line to the Adventure millsite, about 3 miles, is completed.

Osceola Consolidated.—The annual report just issued shows the following results for the year ending December 31st: Gross receipts from sales copper, interest, etc., $2,136,253; total costs, $1,559,538; net income for year, $576,714; dividends paid, $6 per share, $571,200; balance for year, $5,514; balance available for construction account December 31st, 1899, $121; received from sale of treasury stock, $188,011; received from the sale of land to Centennial Copper Mining Company, $20,000; total, $208,133. From this has been paid: New stamp mill construction account, $89,405; new work on South Kearsarge lode, $99,560; total, $188,967; balance yet available for construction account, $19,165; surplus for year, $24,680; balance of assets, December 31st, 1899, $546,746; balance of assets, December 31st, 1900, $571,427. Assets.—Cash and accounts receivable at Boston, and copper sold but not paid for, $409,426 (of this amount $57,987 is due from the receiver of the Globe National Bank; since December 31st, 1900, $11,597 of this has been paid by the receiver); cash and accounts receivable at mine, $3,738.94; supplies on hand at mine, $267,974.26; wood and timber lands, $46,505.92; Hancock & Calumet Railroad Company stock, $75,000; Lake Superior Smelting Company stock, $60,000; total assets, $862,645. Liabilities.—Accounts payable at mine, $218,507; accounts payable at Boston, $72,711; total liabilities, $291,218; balance of assets December 31st, 1900, $571,427.

Tamarack.—The steel sides are nearly up on the rock house building at No. 5 shaft. The Ingersoll-Sergeant 40-drill compressor is in commission and 5 drills are in use in the shaft.

Trimountain.—Ground for the millsite has been broken.

Copper—Keweenaw County.

(From Our Special Correspondent.)

Allouez Mining Company.—In order to dispose of the 20,000 treasury shares it is resolved to distribute them to the stockholders in the proportion of one share for every four shares held and owned by each of them. The directors will call in the old stock and issue new in lieu thereof upon the present capitalization, giving to each stockholder five shares for every four shares now held and owned by him, transferable recepits or scrip for fractional shares to be given to each stockholder entitled thereto, and certificates for full shares to be issued and delivered to the holder or holders of such receipts or scrip as the same may be from time to time presented at the office of the company in quantities aggregating a full share or shares. The report of the superintendent for 1900 shows that the shaft on the Osceola lode was sunk 427 ft. during the year; that cross-cuts were driven 253 ft. and levels drifted 684 ft. The shaft has been sunk 22 ft. below the 11th level. Drifts have been driven north of the shaft an aggregate of 380 ft. and south of the shaft 304 ft. Two cross-cuts were driven at the 7th level, and one each at the 9th, 10th and 11th levels. The exploratory work disclosed nothing of value until the shaft approached the 10th level. The drift going south from the shaft at that point encountered a stretch of very rich copper bearing ground, from which has been taken about 30 tons of mass copper and considerable stamp rock. The lode at the 11th level has not, so far, proven as rich as the 10th, although it has a healthy appearance and is carrying considerable fine copper.

Arnold.—The stamp mill has closed down and the old shafts are not producing. The force has been decreased.

Copper—Ontonagon County.

Adventure Consolidated Mining Company.—This company has let the contract for its new mill just west of the Baltic Mill to Fraser & Chalmers, of Chicago. The machinery will consist of a Riedler pumping engine for the pump house, 3 steam stamps, jigs, etc. The mill will contain 3 heads and will be 134 by 215 with a boiler house 69 by 72 and a pump house 60 by 48 ft. The company has also let a contract to the Rand Drill Company, of New York, through F. C. Osgood, for a 60-drill compressor.

(From Our Special Correspondent.)

Adventure Consolidated.—Henry Key, of Hancock, has been appointed superintendent of construction of the new mill. A contract has been let to the Burt Boiler Works at Hancock for 4 boilers.

Michigan.—The water in the old Minnesota workings is being speedily lowered.

Norwich.—This property is now under option to St. Paul, Minn. parties.

Iron—Menominee Range.

Aragon.—This mine at Norway, owned by the Commonwealth Iron Company, was recently examined by experts for the United States Steel Company, in company with Capt. O. C. Davidson, the general superintendent. The representatives were Dr. N. P. Hulst, of the Oliver Mining Company; Joseph Sellwood, of the American Mining Company; James MacNaughton, of the National Steel Company, and E. F. Brown, superintendent of the Pewabic Mine. The committee has forwarded its report to headquarters and it is understood to have been a favorable one. The purchase price agreed upon has not been given out. The Aragon is one of the best Bessemer properties in the Lake Superior District, and has produced ore as high as 66% iron and as low as .008% in phosphorus.

Michigan.—This property, south of Amasa, is now controlled by the Oliver Mining Company. It was opened by a small shaft in 1891 but lay idle from 1893 to 1899. The finest boiler and engine house in the Crystal Falls District is now being erected. A Cahall safety boiler is in place. For hoisting, a Mannette 6-ft. drum hoist, operating 2 5-ton skips in balance, will be used. A new duplex Rand compressor with 16 and 30 by 36-in. steam cylinders and 17½ by 36-in. air cylinders will be used. Its capacity is 35 drills. The shaft has 3 compartments and is sunk on the underlay. The shaft house is 80 ft. high and will be equipped with a large crusher. Capt. E. P. Edwards is in charge.

MISSOURI.

Jasper County.

Joplin Ore Market.—The best price last week for ore was $27 per ton, but it was reported that $27.50 and $28 was paid for one or two lots. There was a general advance on medium and lower grades of 50c. per ton and the ore from the Eagle and Owl mines at Blendeville and a

large quantity of Joplin ore which sold at $26.50 the previous week brought $27. Lead advanced 25c. per 1,000 lbs., selling at $23.25.

Following is the turn-in by camps of the Joplin District for the week ending March 16th:

	Zinc lbs.	Lead lbs.	Value.
Joplin	2,663,690	431,890	$46,001
Galena-Empire	1,536,470	824,300	37,603
Peacock City	116,820	13,580	1,776
Carterville	2,522,670	339,940	36,959
Webb City	320,240	31,270	4,408
Oronogo	776,430	53,690	10,924
Aurora	990,780	22,410	9,679
Zincite	571,770	3,550	7,799
Duenweg	.....	34,030	897
Neck City	137,630	.....	1,858
Alba	82,890	.....	1,119
Roaring Springs	46,270	7,640	686
Central City	103,230	12,110	1,419
Cave Springs	166,370	14,650	2,237
Spurgeon	52,000	26,170	1,128
Spring City	50,560	57,470	1,891
Beef Branch	3,430	28,730	687
Granby	301,000	40,000	3,860
Carl Junction	239,360	.....	2,916
Stotts City	.....	24,540	570
Ash Grove	.....	35,000	779
District total	10,681,610	2,000,960	$175,196
District total, 11 weeks	105,676,570	14,135,290	$1,568,885

Zinc value for week, $128,873; lead value, $46,323; zinc value, 11 weeks, $1,248,090; lead value, $320,795.

During the corresponding week last year, best grade zinc ore sold at $32.50 per ton and lead at $27.25 per 1,000 lbs. The lead shipments were less by 957,890 lbs., the zinc sales greater by 1,589,670 lbs. and the value greater by $23,956. For the corresponding 11 weeks last year the sales were less by 36,820 lbs. of zinc and 2,821,520 lbs. of lead, but the value was greater by $296,500.

Compared with the previous week, the sales were greater by 842,900 lbs. of zinc and 777,860 lbs. of lead, and the value was greater by $30,178.

Alice.—This zinc carbonate mine at West Plains, Howell County, has been purchased by ex-Governor William C. Renfrow, of Joplin, for $10,000. He expects to use the product in manufacturing oxide of zinc paint at Joplin, where he has just organized the United Zinc and Lead Paint Company with a paid-up capital of $100,000, and is preparing to erect a factory employing 50 men.

Gobbler.—Frank Rockfeller has completed and started an immense new concentrating plant on this property at Wentworth.

Granby Mining and Smelting Company.—This company has purchased of U. S. Hendrickson and Moses Elliott, 800 acres of choice mineral land adjoining the great mines of the Granby Company at Oronogo. Much of the land has been prospected and found to be rich. The price paid was $80,000. The Granby Company since this purchase owns about 6,000 acres of land within a radius of 6 or 8 miles of Joplin.

Spring River Electric Light and Power Company.—This company will soon start its new plant at Neck City to furnish power for the mills at that camp and light the city. The pole line is now being constructed. The principal owner is Frank O. Chesney, of Kansas City.

MONTANA.

Beaverhead County.

(From Our Special Correspondent.)

Dolphin & Goldfinch.—This property, near Argenta, 14 miles west of Dillon, owned by Geo. W. and Anthony French, is being experted by W. R. Grant, of Omaha, for a St. Louis company that may purchase. The property is opened by 2 shafts 60 ft. and 70 ft. deep, with crosscuts and drifts from the bottom of the 70-ft. shaft.

Cascade County.

(From Our Special Correspondent.)

An official notice by the American Smelting and Refining Company announces that the Great Falls plant will close for an indefinite period on April 15th; the reason given is a shortage of ore from the Neihart and Barker districts, which have been the main source of supply. Lately Butte has furnished quite a tonnage, but that supply has also fallen off. It is the intention to give shippers the same rates for treatment at the East Helena plant with probably the extra freight added.

Flathead County.

The new town of Foundation in the West Fisher District has been surveyed. So far tents and cabins are used for dwellings, all of which are crowded.

Prospectors are leaving Libby every day headed for West Fisher. Two new strikes are reported, and enthusiasm is running high.

Kentucky-Vermilion Mining Company.—The annual statement of this company shows a capital of $75,000, all paid, in mining property, mill and machinery, with assets the same. This is the new organization which has taken over the property of the Old Kentucky Company.

(From an Occasional Correspondent.)

American Kootenai Mining Company.—This company has 10 men at work on development and is getting everything in shape to start the stamp mill by April 1st. Work is being carried on in tunnels No. 1 and 2, on the ledge. Some of the principal stockholders, headed by W. J. Beager, secured the Mother Lode group of claims close by, and expect to begin erecting another mill as soon as the snow will permit.

Fisher Creek Company.—This company is making preparations to add 30 more stamps to its mill. Its new saw mill, completed last November, will cut the timber necessary. This company reorganized last winter and increased the capitalization.

Jefferson County.

Basin & Bay State Mining Company.—At a recent meeting at Basin the directors, mostly Springfield, Mass., men, authorized an issue of bonds to start the concentrator and smelter, and treat ore from the Katie Mine as well as custom ore.

Lewis & Clarke County.

(From Our Special Correspondent.)

Gold Belt Mining Company.—This company, at Empire, will build this spring a cyanide plant to work the accumulation of tailings from the Old Empire Mill. The present management spent some months experimenting for a proper method and decided on cyanide. The present mill will run on Empire ore.

Howard.—Sheldon & Low, of Helena, who are operating this property under a bond, have struck a new ore pipe in the shaft 80 ft. below the tunnel level. The ore is of the same quality as the first pipe worked.

Madison County.

Buckeye No. 1.—Townsend and Wiseman recently shipped a car-load of ore from the Buckeye No. 1 at Brandon. Mr. Beardsley hauled the ore to Twin Bridges.

Keynote.—Pritchett and Eastridge have received their returns from 35 tons of lead ore shipped from this claim in Georgia Gulch. The ore was shipped to the East Helena Smelter and that company charged but $5.50 per ton for freight and treatment.

Lake Shore.—This company is driving the crosscut tunnel and expects to cut the lead soon. There are two large leads running parallel and both will be tapped.

Toledo.—A body of ore has been uncovered in this shaft at Sheridan and is said to be of better grade than the former strike.

Silver Bow County.

Butte & Boston.—The circuit court of appeals at San Francisco has sustained Judge Hiram Knowles in his decision in the Snohomish and Tramway litigation. F. A. Heinze appealed from Judge Knowles' order continuing General John S. Harris as receiver and in refusing to dissolve the injunction. The case was argued February 5th.

Farrell Copper Company.—Franklin Farrell, formerly of the Parrot Company, has taken an option on a 200-acre lot of ground on the Meadeville flat from James A. Murray, and has organized this company. Donald Gillies will act as superintendent and has already started a 2-compartment shaft.

(From Our Special Correspondent.)

Geo. W. Sproul, Clerk of the United States Court, has submitted his report relative to the costs in the case of the Colusa-Parrot Mining and Smelting Company vs. the Anaconda Copper Mining Company, which was decided in favor of the latter. The original bill was for $275,749, but Mr. Sproul recommends that it be cut down to $318.

Minnie Healey.—This mine, on the decision of the State Supreme Court reversing the District Court in appointing E. H. Wilson receiver, has closed down and 250 miners have been discharged. The Boston & Montana Company has brought suit against the receiver for $250,000 damages for ore claimed to have been extracted from the Leonard & Dayton claims from the Minnie Healey workings.

NEVADA.

Lincoln County.

(From Our Special Correspondent.)

Dexter.—The management reports cyanides and bullion for the month ending March 10th valued at $10,000. The expenses amounted to $8,000, leaving about $2,000 to the good.

Storey County—Comstock Lode.

Potosi Mining Company.—At the annual meeting on March 13th about 107,000 shares of the 112,000 shares of capital stock were represented. The following directors were elected: H. B. Goodwin, E. P. Barrett, Charles Hirshfeld, Thos. Anderson and E. Gauthier. H. B. Goodwin was elected president, E. P. Barrett vice-president, Charles E. Elliot secretary and H. M. Gorham superintendent.

Washoe County.

(From Our Special Correspondent.)

Crown Prince and Jones & Kinkaid.—These mines at Pyramid have been purchased by M. D. Young & Company, of New York, for $40,000, payable in 2 equal instalments. It is understood that work will start at once.

NEW JERSEY.

Bergen County.

Arlington Copper Company.—At the old Schuyler Mine at North Arlington the stone boiler and engine house is completed and foundations for the engines are being laid. The tank building, 50 by 150 ft., is completed. The furnace building, 40 by 226 ft., containing a furnace 225 ft. long, is nearly finished. An ore bin capable of holding 600 tons is ready and a chimney 100 ft. high is also finished. About 40 miners are reported employed running the main slope and opening drifts.

OREGON.

Union County.

Cornucopia.—Judge Thomas, in the United States district court at Brooklyn, N. Y., has appointed George D. Beattys of New York receiver for the Cornucopia mines, formerly owned by John E. Searles, and included in the general assignment made by the latter to Edward E. Dwight on March 5th. The receiver was appointed on the application of Marcellus Hartley, of New York, who represents that he is a creditor of Mr. Searles to the extent of $50,000 for money loaned.

PENNSYLVANIA.

Anthracite Coal.

Temple Iron Company.—At a meeting in Reading on March 16th the stockholders re-elected these officers: President, Geo. F. Baer, of Reading; directors, Alfred Walter, president of the Lehigh Valley Railroad; J. R. Maxwell, president of the New Jersey Central Railroad; W. H. Truesdale, president of the Delaware, Lackawanna & Western Railroad; E. D. Thomas, president of the Erie Railroad; Thomas P. Fowler, president of the New York, Ontario & Western Railroad; Joseph S. Harris, president of the Reading Railway; Bently H. Smith and F. O. Smink, of Reading. Nearly all the coal carrying railroads are thus represented in the board of directors by their presidents. The company is one of the largest owners of collieries in the upper anthracite region.

Bituminous Coal.

(From Our Special Correspondent.)

The Baltimore & Ohio Railroad is said to have bought about 3,000 acres of coal land in Kigionier, Cook and Donegal Townships, Westmoreland County, and Springfield and Buliskin Townships, Fayette County. John Husband and others of Mount Pleasant made the deal.

Bessemer Coke Company.—This company recently bought the coal rights of the Provance farm of 120 acres in Nicholson Township for about $400 an acre.

Columbia Coke Company.—This company has been organized by Herman Griffin, W. Y. Humphries, William Harris, F. A. Griffin, and Alexander Laughlin, nearly all of whom are members of the Bessemer Coke Company, which now has 650 ovens in operation. The Columbia Company will build 100 ovens near Masontown at once. It has a capital of $200,000.

H. C. Frick Coke Company.—This company has just won a case involving its title to a tract of 115 acres of coking coal near Uniontown, valued at $100,000. The suit was brought by Thos. Nixon to recover possession of the Troutman farm on a claim of descent.

Pittsburg Coal Company.—Fire has broken out in the Banning Mine No. 2. The burning portion has been walled.

Semet-Solvay Company.—This company will build 50 new ovens of the by-product type at Dunbar this spring. The Dunbar plant has 50 ovens in operation, yielding about 2,000 gals. of coal tar and 800 gals. of ammonia every 24 hours.

SOUTH DAKOTA.

Lawrence County.

(From Our Special Correspondent.)

Belle Eldredge.—This mine, in Spruce Gulch, owned by Aaron Dunn and associates, of Deadwood, has shown up a rich shoot. Ore will be shipped soon.

Castle Rock Mining Company.—This company has been organized to develop 260 acres of ground in the Bear Gulch District. The incorporators are: Hiram Dotson, M. D. Edgerton and C. C. Hull, of Spearfish. The ore is much like the Ragged Top ore.

Detroit & Deadwood Company.—This company has bargained for another block of ground in the Ragged Top District. The company will put in machinery at the 100-ton cyanide plant on Annie Creek.

Gilt Edge Company.—The Minneapolis parties who bonded for 60 days the Gilt Edge and Dakota Maid mines, in the Strawberry Gulch District, have reorganized the Gilt Edge Company, with a capital stock of $2,000,000, par value $1 per share. The incorporators are: W. D. Lowery, Edward C. Kennedy and Moses E. Clapp, of Minneapolis, and John R. Wilson and M. L. Day, of Deadwood. The company pro-

poses to take up the bond, develop the properties and erect some sort of reduction works.

Golden Return Company.—R. M. Maloney, Sol. Rosenthal and associates, of Deadwood, have organized this company to work the Deadbroke Mine, west of Deadwood. The mine has a shoot of cement ore, 300 ft. wide and 40 ft. thick, that averages about $8 per ton gold. It is treated by cyanide.

Homestake Company.—The company is said to employ about 2,700 men, including those at work in the pineries. The pay-roll amounts at present to about $150,000 per month. Superintendent T. J. Grier states that it will be at least 5 weeks yet before the DeSmet hoisting works will be completed and the DeSmet Mill ready. It will be about the same length of time before the new cyanide plant is completed. The company will have 900 stamps in operation when the DeSmet mill starts.

Strawberry Gulch District.—Minneapolis men have made first payment on the Dakota Maid, Gilt Edge and another property in this district, 6 miles east of Deadwood. The Gilt Edge was owned by the Specie Payment Company, of which W. D. Lowry, of Minneapolis, was president; John R. Wilson, of Deadwood, secretary, and M. L. Day, Deadwood, general manager. The Dakota Maid Mine was owned by Joe King, of Deadwood. A new company is to be organized for the purpose of working the properties. A large cyanide plant may be erected.

Uncle Sam.—The Clover Leaf Mining Company claims to have cross-cut the main ledge, 50 ft. The company is working 20 of the 60 stamps and is installing a steel hoist.

Pennington County.

(From Our Special Correspondent.)

Black Hills Copper Company.—This company, of Detroit, has done considerable drifting and cross-cutting at the bottom of a 400-ft. incline, on a copper property 5 miles west of Rochford. The vein now fills the shaft bottom and is rich enough to work. The crosscut is being run to tap 2 other ledges.

Blue Lead.—The tunnel is in 1,057 ft. and small stringers of copper-stained quartz are reported cut. It will require 350 ft. more to tap the main ledge. The tunnel will tap the ledge 700 ft. below the outcrop. Three shifts of 7 men each work in the tunnel.

Golden Slipper.—J. B. Safford, of Chicago, and associates, are to develop this mine, 4 miles east of Hill City. The shaft is to be sunk 200 ft. deeper and a 5-stamp mill will be erected. The Chicago people have a working option.

Holy Terror.—All of the 30 stamps are again dropping at the Holy Terror and Keystone. The main shaft is being sunk 100 ft.

Montezuma.—It is reported that Eastern men have bonded the Montezuma Mine and Mill, at Rochford, and that work is to start this spring. There is considerable ore in the face of the old workings, that averages about $12 per ton gold. It would pay well with concentrators in the mill.

Rochford.—Charles Lawrence, of Rochford, has encountered a 50-ft. ledge of refractory ore west of the Burlington track, near Rochford.

UTAH.

(From Our Special Correspondent.)

Bullion and Ore Shipments.—During the week ending March 16th there were sent forward from the several smelters 18 cars, or 756,592 lbs., of silver-lead bullion; 6 cars, or 317,136 lbs., of copper bullion, and 123 cars, or 5,355,100 lbs., of silver-lead ores. A total of 147 cars, or 6,428,828 lbs., for the week.

Beaver County.

(From Our Special Correspondent.)

O. K.—In running a cross-cut on the 200 level of this property, one of the Majestic Company's holdings, samples, is it said, showed 37.2% copper, 7.2 oz. silver and $6.80 gold. The cross-cut was in about 15 ft. when the strike was made. Similar ore was encountered at the bottom of the shaft 75 ft. below.

Juab County.

(From Our Special Correspondent.)

Tintic Shipments.—There were sent forward from the 3 rail points this week 106 cars of ore and 2 cars of concentrates, the latter from the Monmoth Mill. The contributors of ore were as follows: Centennial-Eureka, 23 cars; Bullion-Beck, 6; Gemini, 10; Humbug, 5; May Day, 3; Godiva, 5; Grand Central 11; lower Mammoth, 3; Mammoth, 12; Ajax, 1; Carissa, 6; Tesora, 3; Swansea, 13; South Swansea, 5.

Salt Lake County.

(From Our Special Correspondent.)

Bingham Copper and Gold Company.—There seems to be no doubt that the company has closed the negotiations for the Grand Central. The deal has been manipulated very quietly by Clarence K. McCornick and up till March 14th the newspapers have had no knowledge of the transaction. The consideration is said to be $7.50 per share, or almost $2,000,000. Mr. McCornick is in New York, presumably in this connection.

Summit County.

(From Our Special Correspondent.)

Park City Shipments.—For the week ending March 16th the Park City shipments, as reported by the Mackintosh Sampler, were 2,523,520 lbs., representing the output of the camp. The following were contributors: Silver King, crude ore, 726,470 lbs., concentrates 372,850 lbs.; Daly-West, crude ore, 459,920 lbs., concentrates 754,130 lbs.; Anchor, concentrates 210,150 lbs. The roads are practically impassable.

Piute County.

(From Our Special Correspondent.)

Gold Mountain District.—Manager Filer visited Salt Lake this week to receive settlement for the last lot of cyanides from the Annie Laurie Mill. The run of 12 days, from 2,000 tons of ore, gave a net return from the cyanides of over $21,000.

WASHINGTON.

Ferry County—Republic.

(From Our Special Correspondent.)

Ore Output.—The present daily shipping capacity is reported: Mountain Lion, 200 tons; San Poil, 50 tons; Black Tail, 40 tons; Ben Hur, 25 tons. The Nob Hill, Trade Dollar, North San Poil and Little Cove each several tons of ore a day. Tom Thumb, 100 tons daily. The Morning Glory can furnish considerable $20 ore in addition to present shipments of very rich ore.

The deadlock between the mill and mine owners has caused uneasiness, but that feeling is already dying out, in view of better conditions promised.

Before much ore can be hauled to the mill the roads, now in shocking condition, must be repaired or, better, a tramway laid about 5 miles long. This latter is much talked of and will no doubt be built later on.

Chico.—Drifting north on the 300-ft. level is still in progress.

Princess Maud.—On 300-ft. level the north drift is in 107 ft. and south drift 65 ft. The ore averages 4 ft. wide and is of fair value.

Republic.—The steam hoist and air compressor from the Bradley Engineering Company will be installed at the head of the winze on the No. 4 tunnel as soon as it arrives. From the south upraise, midway between the 4th and 3d levels, a body of rich ore 11 ft. wide has been struck.

Republic Power and Cyaniding Company.—The mill is now running on its regular quantity of ore from the Republic Mine. The foundations for the Griffin mills are being set in concrete. When completed the mill will be ready for custom ore. A. A. Ayer, of Montreal, Que., president of the company, has been here looking into the company's affairs.

FOREIGN MINING NEWS.

AUSTRALASIA.

New South Wales.

Broken Hill Proprietary Company.—The refinery report for the four weeks ending February 27th shows a total output of 513,258 oz. silver, 4,144 tons lead and 31 tons hard or antimonial lead.

Queensland.

Mount Morgan Gold Mining Company.—This company reports for the month of February a total of 18,740 tons ore treated. The yield was 18,088 oz. gold, an average of 0.97 oz. to the ton.

CANADA.

British Columbia—Boundary District.

The ore shipments from Phoenix for February were 18,480 tons.

B. C.—The main shaft is down 475 ft. This property ships an average of 3,000 tons of ore per month to the Trail smelter.

COAL TRADE REVIEW.

New York. Mar. 22.

Anthracite.

Producers of hard coal have little cause to complain of the past winter either as regards tonnage sold or prices realized. Trade has been very good, thanks to the strike last fall and the cold weather in February, that came just as business showed signs of falling off. Now that milder weather is here, the fear of another strike at the collieries has brought out a lot of orders, particularly from those dealers who did not think there would be a strike last fall. The demand is quite well distributed, but is heaviest in the West and lightest at points beyond Cape Cod.

Supplies at Minneapolis and at the head of the Lakes are practically gone and consumers will have to burn wood or soft coal until navigation opens.

In Chicago territory there has been considerable buying due to fears of a tie-up at the mines. Supplies on the docks are low and will be cleared up by the opening of navigation. At lower lake ports fears of a strike have influenced buying, though retail trade is falling off. At seaboard points strike talk seems to have had less effect than inland and buying is slack.

The prospect of a general suspension of labor at the collieries is less threatening than a week ago. From all accounts it appears that the Hazleton convention was far from being unanimous in its "recognition or strike" ultimatum to the operators. There are some local dissensions among the United Mine Workers, the business men of the anthracite region are against a strike and the public at large, feeling the effect of last year's strike in higher prices for coal, is against the advance that would follow another. Moreover, the operators have offered to continue for another year the present wages, and, knowing that the men are getting better wages than in 20 years, the public is not likely to look favorably on a fight for a technical point. The operators are more firmly united than ever before and, so far as can be seen, a contest for recognition would simply mean the wreck of union influence among the miners. Taking these things into consideration, it looks now as though there would be no strike April 1st, but the situation is still unsettled.

If there is no strike, the spring prices will be announced early in April. At present we continue to quote: Broken, $3.65; egg, $4; stove and nut, $4.50, f. o. b. New York Harbor ports.

Bituminous.

The seaboard soft coal trade shows considerable improvement. Demand is increasing and producers are generally making larger outputs. All sorts of stories about prices for the coming year are in circulation, most of them having a very small basis of fact. It is said, however, that some prices have actually been named, but these are only for special conditions and hence do not bear on the general market. Everybody is awaiting the word of the Bituminous Association. This is expected on March 23d. There is the usual fight for position by consumers and the usual stories are circulated about cut prices. Sales agents in New York pay little heed to these tales, most of which are no doubt magnified unwittingly, though it seems strange that as prices have not been named the stories should be circulated so persistently. It is said that the producers' association is much stronger than last year and prospects for any cuts in prices are correspondingly smaller.

The prospects for labor troubles at the collieries are at present slight.

Much business from the shoal water ports that have been closed by ice is coming in from all along the coast, and adds to the increased demand. Trade in the far East is quiet. There is some new business, but it does not amount to much. Along the Sound demand is better and all orders are reported taken at full prices. New York Harbor trade is fair. All-rail trade continues to take a large tonnage and shows no falling off.

Transportation from mines to tide is slow, cars coming through in a week or 10 days. Car supply at the collieries gives rise to complaint, in some cases. In the coastwise vessel market there is a fair supply of large vessels and some of the smaller craft are coming out of winter quarters, though the number of these is still limited. We quote coastwise freight rates from Philadelphia as follows: Boston, Salem and Portland, 75c.; Providence, New Bedford and the Sound, 65c.; Wareham and Lynn, 80@85c.; Newburyport, 85c.; Portsmouth, 80c. Rates from the further lower ports are 5@10c. higher. Coal is selling nominally at old quotations: $2.85 for best grades and $2.35@$2.60 for poorer grades f. o. b. New York Harbor ports.

Birmingham, Ala. Mar. 18.

(From Our Special Correspondent.)

Almost every coal mine in the State is working hard and production is at the top notch. Demand is strong and will probably keep up for some time. Leaders in the mining workers' associations report no labor troubles. Good prices obtain, in fact, better than last year at this time. New mines are being opened and some of the larger will begin shipping coal within 4 or 5 weeks. The mines of the Empire Coal and Coke Company, of Alabama, located in Walker County, will probably be shipping coal within a month. These mines propose to have an output of something like 1,000 tons daily.

The mines at Altoona and Stout Mountain, in Blount County, are increasing their production. The announcement is made that Paul Stith, the well-known coal mine superintendent, will not leave the service of the Sloss-Sheffield Steel and Iron Company, as was intended. He was offered a handsome advance in salary with the Republic Iron and Steel Company, but the Sloss-Sheffield Company made it worth his while to remain.

Chicago. Mar. 19.

(From Our Special Correspondent.)

Anthracite Coal.—The buying of anthracite continues moderate and dealers apparently have little inclination to place orders beyond running requirements. The possibility of a strike among the hard coal miners has had little effect in this market to date. Prices are rather inclined to sag, though some effort is being made to maintain circular rates of $5.75@$6. Bituminous coal continues to pile up, the supply continuing

larger than the demand, and prices are being cut in every direction. The coming of spring, it is hoped, will bring with it large orders from manufacturers and the railroads are looking forward to this to help matters.

Cleveland, O. Mar. 20.

(From Our Special Correspondent.)

The railroads handling coal to the lakes have decided on a 10c. reduction in rates on all coal from the Pittsburg, the West Virginia and the Ohio coal-fields to the lake ports and to Chicago. This is the first change of rates that has been made for over a year. Some of the companies in this territory have sent salesmen into the Northwest and it is said that the indications are for a heavy demand. The prices at which coal will be sold in the Northwest will be fixed at a meeting before the end of this month.

The movement of domestic coal has been as heavy as the supply of railroad equipment would permit, most of the lines finding it difficult to keep enough cars on hand to supply the needs of the shippers. The sales this week have been fairly heavy, but the prices have not changed, remaining as quoted heretofore for Ohio coals: Slack, $1.20; nut, $1.50; run-of-mine, $1.16; three-quarters, $1.80; lump, $2; Massillon, $.260.

Pittsburg. Mar. 20

(From Our Special Correspondent.)

Coal.—The Monongahela River Consolidated Coal and Coke Company was unable to ship all the coal loaded and ready for the Southern market, owing to the inability to get the towboats back in time. The shipments during the past two weeks, however, have been very satisfactory, exceeding 20,000,000 bus. Enough empty coal boats and barges have been returned to keep the mines busy for several months. A representative of two Southern railroads is in the city negotiating for 100,000 tons of coal to be delivered at points in the South during the year. No change in price has been announced and it is certain that there will be no reduction after April 1st, but it is more likely that an advance will be ordered. There is still a possibility of a strike of the miners of this district on April 1st, when the new scale goes into effect. The representatives of the United Mine Workers and the two coal combinations, who have been conferring for two weeks on local features of the scale, have not yet arrived at a satisfactory agreement. It is probable that a convention will be called to determine what shall be done. The miners have proposed twenty changes, none of which has been accepted by the operators.

Connellsville Coke.—Prices are higher this week, the leading producer quoting $2 for furnace and $2.50 for foundry coke. All previous records as to production in the Connellsville Region were broken last week, when 229,035 tons were burned. This was a gain of 3,322 tons compared with the previous week. Of the 21,447 ovens in the region 19,540 are active and 1,907 are idle. The shipments for the week aggregated 10,747 cars, distributed as follows: To Pittsburg and river tipples, 3,536 cars; to points west of Pittsburg, 5,015 cars; to points east of Connellsville, 2,196 cars. This was a decrease of 398 cars.

Shanghai, China. Feb. 6.

(Special Report of Wheelock & Co.)

Coal.—Very little doing in Japan and Welsh coal. Australian Wollongong has further declined and retailers are anxious to sell. Quotations, per ton, are as follows: Welsh Cardiff, 22 taels ($14.74); Australian Wollongong, nominal, cargo, ex-godown, 12 taels ($8.04), and miscellaneous sorts, 6@7 taels ($4.02@$4.69); Chinese, Kaiping, lump, 7.50@10.00 taels ($5.02@$6.70); dust, 5 taels ($3.25), and mixed, 5.50@6 taels ($3.69@$4.02); Japan, all contracted for. Arrivals of all kinds of coal during the fortnight ended February 6th amounted to 22,404 tons.

Kerosene Oil.—The market remains steady with a slight advance, but business is small, owing, no doubt, to the near approach of the holidays. There have been no arrivals. Stocks are: Devoes, 501,500 cases, and Russian, 567,650 cases, total, 1,069,150 cases. Quotations per case are as follows: American Devoes, 1.79 taels ($1.20); Russian, Anchor Chop, 1.71½ taels ($1.14); bulk oil (2 tins), 1.62½ taels ($1.07), and loose, 1.24 taels (82c.). No quotations for Sumatra Langkat.

Foreign Coal Markets. Mar. 22.

Export trade is quiet for the present, and few new orders or charters are to be noted. Ocean freight rates have a downward tendency.

In Germany the coal syndicates are gradually giving way on prices, under the pressure of declining orders. In the present state of trade manufacturers prefer, in many cases, to shut down rather than to continue paying higher prices for fuel.

Messrs. Hull, Blyth & Co., of London and Cardiff, report under date of March 9th an easier tendency in prices for export coal. Quotations are: Best Welsh steam, $4.20@$4.32; seconds, $4.08; thirds, $3.84; dry coals, $3.60@$3.72; best Monmouthshire, $3.84@$3.96; seconds, $3.48@$3.72; best small steam coal, $1.68@$1.80; seconds, $1.56 @$1.62; other sorts, $1.20.

These prices are per long ton; for Cardiff coals f. o. b. Cardiff, Penarth or Barry, while those for Monmouthshire coals are f. o. b. Newport, exclusive of wharfage, and are for cash in 30 days, less 2½% discount.

The disposition to hold back vessels, combined with recent stormy weather which has delayed arrivals, has stiffened rates. Some quotations are: Cardiff to Genoa or Naples, $1.92; Port Said, $2.04; Singapore, $4.08; St. Vincent, $1.68; Buenos Aires, $3.72; Rio Janeiro, $3.96.

CHEMICALS AND MINERALS.

(For further prices of chemicals, minerals and rare elements, see page 382.)

New York. Mar. 2.

Heavy Chemicals.—Increased demand for domestic alkali and caustic soda has induced makers to raise prices. Dearer coal and raw material are also responsible for this advance. Sal soda consumers are buying more freely, as it is believed makers will raise prices. Bleaching powder made by our own works has been pressed for sale at $1.80 per 100 lbs. f. o. b. works, owing to the keen competition of importers, especially those selling continental makes. Chlorate of potash from abroad is firmer.

We quote per 100 lbs. as follows: Domestic soda ash in bulk is worth 2¾c. per 100 lbs. less than quotations below:

Articles.	Domestic.		Foreign.
	F.o.b. Works.	In New York.	In New York.
Alkali, 58%.	80@85	....	85@87½
" 48%.	85@90	....	.....
Caustic Soda, high test....	$1.80@$1.90	.....	1.85@1.87½
powd., 60%.	.....	2.75	.....
70@74%.	.....	2.85	.....
98%.	....	3 25	3.75@4.00
Sal Soda	50	60	67½
" conc.	1.25@1.50	....	1.75
Bicarb. Soda..	1.00@1.12½	.....	1.37½@3.00
" " extra	3.25@3.50	.....	.....
Bleach Pdr., Am. prime...	1.80	....	.....
Eng. prime..	.....	.....	2.00@2.10
other brnds.	....	....	1.75@1.90
Chi. Pot. cryst	....	8.00@8.25	9.25@9.50
" powd.	....	8.25@8.50	9.50@9.75

Cyanide of Potash.—Sales are reported at 24½c. per pound, but importers quote 25c.

Acids.—Export business looks up much better. Recently some fair-sized orders were booked for muriatic and sulphuric acid. With present advantageous prices for raw material, and the economical operation of the acid-making plants, there is good promise for an increasing export trade. So far we have made most of our shipments to neighboring countries, although inquiries have been received from Europe. The easier freight market certainly favors an enlarged export movement. Acid-makers try for the foreign markets, and add your quota to the growing chemical exports. Blue vitriol is finding ready sale in most foreign agricultural districts and the extent of our export trade is best shown in the following table. The exports of copper sulphate (blue vitriol) from New York in February and the two months this year, were as follows, in pounds:

Destination.	February.	Two months.
Argentina	155,325	189,075
Austria	911,751	1,677,398
Bermuda	.....	400
Chile	.....	46,350
Cuba	100	100
France	94,619	168,176
French Africa	142,359	142,359
Italy	2,288,196	4,525,976
Mexico	31,428	148,544
Netherlands	214,608	214,608
Nicaragua	.....	450
Portugal	370,516	520,151
Uruguay	11,700	11,700
Total, lbs.	4,220,602	7,645,287

As compared with the previous month the exports in February show an increase of 795,917 lbs. In February the average invoice value per 100 lbs. was $4.47, or 11c. higher than for January.

Quotations as below are for large lots delivered in New York and vicinity, per 100 lbs. unless otherwise specified.

Acetic, No.8	$1.62½	Nitric, 36°	$3.87½
Blue Vitriol.	5.00@5.25	Nitric, 38°	4.12½
Aqua Fortis, 36°	3 62½	Nitric, 40°	4.37
Aqua Fortis, 38°	3 87½	Nitric, 42°	4.75
Aqua Fortis, 40°	4.12½	Oxalic	5.75@6.00
Aqua Fortis, 42°	4.50	Sulphuric, 66°	1.20
Muriatic, 18°.	1.20	Sulphuric, 60°	1.05
Muriatic, 20°.	1.35	" bulk 50° ton	14.00
Muriatic 22°	1.50		

Brimstone.—Freight rates from Sicily are lower, 7s. ($1.68) having been booked, while another steamer has been chartered to Philadelphia at 7s. 3d. ($1.74), sailing on March 25th. Best unmixed seconds on spot continue high at $25@$26, while nearby arrivals are quoted at $22@$22.25, and futures at $21@$21.25. Best thirds are worth $2 less.

Pyrites.—New York imports this week were 4,818 metric tons from Spain. A charter of 1,549 tons has been booked from Huelva, Spain, to Philadelphia at 8s. ($1.92). Domestic pyrites continue in demand on contract, while prices are nominally unchanged. We quote as follows: Mineral City, Va., lump ore (basis 45%), $4.90 per long ton, and fines $4.50. Charlemont, Mass., lump, $5.50 and fines $5. Spanish pyrites, 12c. delivered ex-ship New York and other Atlantic ports. Spanish pyrites contain from 46@51% of sulphur; American from 42@44%.

Fertilizing Chemicals.—Leading ammoniates are firm, as packers report comparatively small stocks.

Quotations are as follows: Sulphate of ammonia, gas liquor, $2.77½@$2.82½ per 100 lbs.; blood, high-grade, $2.20 per unit, f. o. b. Chicago; tankage, high grade, $2.10 and 10c. per unit, f. o. b. Chicago; Calcutta bonemeal, $20@$24 per ton, as to quality; domestic steam ground bone, $18 @$18.50 per ton. Potash salts net prices for New York, Boston or Philadelphia shipment are as follows: Muriate of potash, 80@85%, $1.83 per 100 lbs.; muriate of potash, 95%, $1.86; sulphate of potash, 90%, $2.11; sulphate of potash, 96%, $2.13 per 100 lbs.; double manure salt, 48@53%, $1.12 per 100 lbs.; kainit, testing 12.4% actual potash, $9.05 per long ton; sylvinit, 38½c. per unit of sulphate of potash; manure salt, 20% actual potash, 66c. per 100 lbs.

Nitrate of Soda.—Quiet. The "Nyanza" arrived with 41,068 bags. Spot is lower at $1.81¼@ $1.82½ per 100 lbs. Futures are quoted the same. The Anglo-Chilian Nitrate and Railway Company has announced a further interim dividend out of the 1900 profits, of 7s. ($1.68) or 3½% on the preferred stock.

Concerning the situation in Europe it is noteworthy that in the two months ended February 28th the total imports of nitrate of soda amounted to 168,350 long tons, showing a falling off as compared with the corresponding period last year of over 80,000 tons. The deliveries in the present year totaled 198,630 tons, or 68,000 tons less than 1900. A rather discouraging feature of the whole situation is that the visible supply on March 1st is 108,820 tons greater than last year, being 756,870 tons, against 648,050 tons in 1900. Should this increase continue it is feared the market will suffer materially, notwithstanding the producers' combination.

Messrs. Jackson Brothers, of Valparaiso, Chile, write us under date of February 9th as follows: The market has been dull throughout the fortnight, few orders being transmitted on basis of 6s.@6s. 1d. steamer terms, early delivery, and at 5s. 10½d. alongside, for April, the latter combined with a 22s. 6d. freight. In the refined quality some February and March shipments were placed at 6s. 3½d., and May and June at 6s. 1d., both alongside. The committee of the Nitrate Combination agreed on January 17th not to increase the export figures of January and March. The production during December is advised as 3,084,700 qtls., making a total for the year 1900 of 32,480,000 qtls., against 30,760,000 qtls. during 1899, or say an increase of 1,720,000 qtls. The stocks on the coast on December 31st were 5,862,100 qtls. Exports in January, 1901, were 2,642,500 qtls., as against 2,016,500 qtls. last year. Consumption in Europe in January fell off 800,000 qtls. from last year. We quote 95%, February and March shipment, at 6s. 0½d.; April, 5s. 10½d.; May-June, 5s. 11d.; July-December, 5s. 11½d.; and 96%, February-March, 6s. 3d.; April-June, 6s. 0½d.; all ordinary terms' sellers. The June, 6s. ½d. for 95%, with an all-round freight of 22s. 6d., stands in 7s. 10½d. per cwt. net cost and freight without purchasing commission. Reported sales for the fortnight ended February 9th are 83,500 qtls., and resales, 22,000 qtls.

Saltpeter.—Wholesale quantities are quoted on spot at $3.35 per 100 lbs., and $3.25 for shipments of crude, and $4.25 per 100 lbs. for refined. Consumption is larger than last year. In January and February 8,202 bags were consumed, leaving stocks on hand March 1st, at 1,996 bags, as against 6,550 bags at the same time last year. Expected arrivals are 15,985 bags, making the visible supply March 1st 17,981 bags, against 19,654 bags last year.

Phosphates.—Reports from foreign consuming centers indicate that Germany expects to buy phosphate rock more freely, owing to the improved demand for superphosphate. Export charters are few just now, only one being noted this week, namely, 1,385 tons from Fernandina to Ghent, Belgium, at 16s. ($3.84), March sailing.

Florida, Peace River and land pebble are lower in the foreign markets, owing to competition with Algerian phosphates. The latter grades are also quoted at less than last week.

Phosphates	Per Ton F. o. b.	C. i. f Un'd Kingdom or European Ports.	
		Unit.	Long ton.
*Fla. hard rock (77@80%)	$6.50@7.00	7¼@7¾d	$11.31@12.09
*Fla. land pebble (68@73%)	3 85@4.00	6¼@6¾d	8.75@9.10
*Fla. Peace River (58@63%)	2.50@2.75	6¼@6¾d	7.50@7.80
†Tenn. rock 78%, export.	3.25@3.50	6¾@7d	10.53@10.92
†Tenn.....78% domestic.	3 00	.....	.....
†Tenn.....75% "	2.75	.....	.....
†Tenn.....72% "	2.50	.....	.....
‡So. Car. rock, crude....	2.50@2.75	.....	.....
§So. Car. rock, dried.....	3.25	6d	7.00
Algerian, rock...(63@70%)	.....	6¼@7d	8.71@9.30
Algerian, rock...(58@63%)	.....	.....	7.20@7.80
Tunis, Gafsa.....	.....	.....	7.00@7.88

* Fernandina, † Mt Pleasant. ‡ At mines. § On vessels, Ashley River.

Liverpool. Mar. 6.
(Special Report of Joseph P. Brunner & Co.)

Our market for heavy chemicals is still lacking animation so far as export business is concerned.

Soda ash is firm and makers are fairly busy with deliveries on running contracts. For export quotations vary according to market, but nearest range for tierces may be called about as follows: Leblanc ash, 48%, £5 15s.@£6; 58%, £6 2s. 6d.@£7 6d. per ton, net cash. Ammonia ash, 49%, £4 10s.@£4 15s.; 58%, £4 15s.@£5 per ton, net cash. Bags, 5s. per ton under price for tierces. Soda crystals are moving off at £3 7s. 6d.@£3 10s. per ton, less 5% for barrels, or 7s. less for bags, with special terms for certain favored markets. Caustic soda is still quiet, but the demand is slightly better. We quote, 60%, £9 5s.; 70%, £10 5s.; 74%, £10 15s.; 76%, £11@£11 5s. per ton, net cash.

Bleaching powder is dull, and although prices are nominally unchanged at £7@£7 5s. per ton net cash for hardwood packages, the tendency is rather weaker. Special prices quoted for certain competing markets.

Chlorate of potash is in light request and easier at 3½@3⅝d. per lb., net cash.

Bicarb. soda is unchanged and selling to a fair extent at £6 15s. per ton, less 2½% for the finest quality in 1 cwt. kegs, with usual allowances for larger packages; also special terms for certain favored markets.

Sulphate of ammonia is disappointing, the demand being much lighter than is usual at this season. Quotations are unchanged at £11@£11 2s. 6d. per ton, less 2½% for good gray, 24@25%, in double bags f. o. b. here.

Nitrate of soda is in fair demand at £8 12s. 6d.@£8 17s. 6d. per ton, less 2½% for double bags f. o. b. here, as to quality.

Messina, Sicily. Mar. 1.
(Special Report of Emil Fog & Sons.)

Brimstone.—February is always a quiet month. The Baltic ports are closed, as also the inland navigation in the United States. Owing to the stoppage of these exports, offerings from the dissidents were sufficient to supply the demand, and there was no necessity to recur to the Anglo-Sicilian Company, who, having sold previously, maintains its rates above those of dissidents. The tendency of the market is a strong one, without any prospect of decline for the present. Stocks are relatively small and in firm hands.

Return freights from the United States having declined, the present rate of 7s. ($1.68) for brimstone from Sicily to New York is a low one. For the Baltic, March-April loading, steamers have been chartered at 8s. 3d. ($1.98), for New Fairwater, 9s. ($2.16) to Gefle, Sweden.

Quotations per long ton are as follows: Best unmixed seconds, 78s. ($18.72); best thirds, 69s. 9d. ($16.74); refined block (100%), 83s. ($19.92); refined roll, in casks, 90s. ($21.60); sublimed flowers, extra pure, in bags, 98s. ($23.52); sublimed superior, in bags, 95s. 6d. ($22.80); sublimed current, in bags, 94s. ($22.56).

SLATE TRADE REVIEW.

New York. Mar. 22.

The list of prices per square for No. 1 slate standard brand f. o. b. at quarries in car-load lots, is given below:

Size, Inches	Monson or Br'nville.	Bangor.	Bangor Ribbon.	Alb'n. or Jackson Bangor.	Chap'n Keystone	Peach Bottom.	Sea Gr'n.	Unfad'g Green.	Red
	$	$	$	$	$	$	$	$	$
24 x 14	6.50	3.50	3.00	3.00	.	5.10	3.00		.....
24 x 12	6.60	3.50	3.00	3.00	3.80	5.25	3.00	3.75	.....
22 x 12	6.60	3.50	3.25	3.00	... .	5.25	3.00	3.75	.....
22 x 11	6.50	3.75	3.25	3.00	4.00	5.25	3.00	4.00	.....
20 x 12	6.90	3.75	.....	3.00	.. .	5.25	3.00	3.75	.....
20 x 11	6.80	.....	.....	3.25	....	5.25	3.00	.....	.....
20 x 10	6.80	4.25	3.50	3.25	4.00	5.35	3.00	4.25	10.50
18 x 12	6.80	3.75	.....	3.00	.....	5.25	3.00	3.50	.....
18 x 11	7.00	.....	.....	.....	.....	.....	3.00	3.75	.....
18 x 10	7.00	4.25	3.50	3.25	4.00	5.35	3.00	4.00	10.50
18 x 9	7.00	4.50	3.50	3.25	4.00	5.35	3.00	4.25	10.50
16 x 12	6.80	3.75	...	3.00	.....	.....	2.90	3.50	.....
16 x 10	7.00	4.00	3.50	3.25	4.00	5.25	2.90	4.00	10.50
16 x 9	7.00	4.25	.....	3.25	4.00	5.35	2.90	4.25	10.50
16 x 8	7.00	4.50	3.50	3.25	4.25	5.35	2.90	4.25	10.50
14 x 10	6.60	3.75	3.25	3.00	.....	5.25	2.70	3.75	10.50
14 x 9	6.50	.....	.....	.....	.....	.....	2.70	3.75	10.50
14 x 8	6.60	3.75	3.25	3.00	4.00	5.10	2.70	4.25	10.50
14 x 7	6.40	3.75	3.25	3.00	3.75	5.10	2.50	4.25	10.50
12 x 10	5.75	....	.	....	.. .	...	2.50	3.25	....
12 x 9	5.60	...	.....	....	... .	....	2.50	3.25	.....
12 x 8	5.50	3.50	.....	2.85	.....	4.85	2.50	3.50	9.00
12 x 7	5.00	3.25	.....	2.85	3.25	4.85	2.00	3.50	9.00
12 x 6	4.80	3.25	.	2.85	3.25	4.75	2.00	3.50	8.50

A square of slate is 100 sq. ft. as laid on the roof.

Domestic business is looking up better, and prices are generally firm.

Exports of slate from New York fell off notably in February. In that month the total shipments were valued at $10,791 only, which is considerably less than any month in some years. Of the February exports $5,898 were credited to the United Kingdom, $2,550 to Denmark, $844 to India, while the balance was distributed among 7 other countries. The roofing slate exports aggregated 1,550 squares, most of which went to England. School slate shipments were made chiefly to India. In the two months ending February 28th the exports amounted to $63,335, against $80,675 last year, showing a decrease of $17,340, or 22% in 1901. The total roofing slate exports this year were 15,950 squares, against 14,950 squares last year, an increase of 1,000 squares in 1901.

Mill stock shows a marked falling off in exports, notably to the far East.

A word in regard to our export trade. That we have a good market in the United Kingdom and her colonies has already been proved by our exports. But how about the European trade—Germany, Denmark, Norway and Sweden? Surely we can compete with foreign quarrymen in these markets, now that freight rates are easier. With advantageous ocean freight rates there is no doubt that we will win the world's markets.

IRON MARKET REVIEW.

New York, Mar. 22, 1901.

Pig Iron Production and Furnaces in Blast.

Fuel used	Week ending Mar. 23, 1900. F'ces.	Tons.	Week ending Mar. 22, 1901. F'ces.	Tons.	From Jan., '00. Tons.	From Jan., '01. Tons.
An' racite & Coke.	264	286,350	222	285,750	3,385,027	3,061,411
Charcoal.	29	7,175	26	8,175	91,172	91,384
Totals.	293	293,525	248	293,925	3,476 199	3,152,795

The iron and steel trade continues active and our local reports below show good business in pig iron and in many kinds of finished products. Production continues on a large scale.

It is suggested in some quarters that the present activity is in some degree forced, and that various influences have been brought to bear to make a boom market which would last until the flotation of the United States Steel Corporation had been completed. This is quite possible, and should the supposition be correct, we may expect to see the market quiet down. Indeed, there is already apparent a tendency towards a slower market, and the usual summer period of dullness may be anticipated by a month or so.

Notes of the Week.

The demand for manganese ore is increasing, as might be expected. A recent arrival at New York brought 903 bags of ore from Kobe, Japan. Large imports from Cuba are expected, and charters have been made to carry manganese ore from Daiquiri to Philadelphia at $1.98 per ton. The current rate from Poti, Russia, to Atlantic ports is about $3.60 per ton.

Birmingham, Ala. Mar. 18.
(From Our Special Correspondent.)

The advance in prices, the third inside of a month, was not unexpected. The demand has been very good. Production in Alabama is a little off, only 3 of the Sloss-Sheffield Steel and Iron Company furnaces being in blast in the Birmingham District. The advances announced were 25c. on the ton each time. While the advances in the North lent aid to the Southern market, it is not believed that this wholly was the cause of the advances in this section. The report of the Southern Iron Committee for February shows that the shipments from the Alabama and Tennessee Districts, with Middlesboro, Ky., added, amounted to 114,261 tons, which was a slight increase over the same month of last year. The Birmingham District, which includes the furnaces in Birmingham, North Birmingham, Bessemer, Woodward, Thomas, Ensley and Oxmoor, shipped out during February 65,206 tons, a decrease as compared with February, 1900, of 7,060 tons. There were only 4,823 tons of pig iron exported from this district in February. The Sheffield District, which includes furnaces at Sheffield and Florence, shipped more than 10,000 tons during February.

No. 2, foundry iron, seems to be the basis. That grade is now quoted at $11.50 per ton. The following quotations are given: No. 1 foundry, $11.50@$12; No. 2, $11@$11.50; No. 3, $10.50@$11; No. 4, $10@$10.50; gray forge, $9.50@$10; No. 1 soft, $11.50@@$12; No. 2, $11@$11.50.

Considerable work is being done in the rolling mills. The little rolling mill in Anniston, Ala., recently purchased by Birmingham parties will start at once. The Bessemer rolling mills of the Tennessee Coal, Iron and Railroad Company, has been bringing white men from Miles, O., for the puddling department. The Birmingham and Gate City rolling mills are working steadily.

In the plant of the Alabama Steel and Wire Company there is hard work done to catch up with orders. In the big steel plant of the Tennessee Company there are 7 open hearth furnaces in operation.

Cleveland, O. Mar. 20.
(From Our Special Correspondent.)

Iron Ore.—The dock managers and the 'longshoremen in conference here over the wages to be paid to dock laborers this summer have all but agreed upon the essential features of the contract. The terms now call for a 12-hour working day and wages slightly reduced from last year's schedule. This agreement will be signed on Thursday or Friday. The ore shippers have held several conferences as to the season's prices, but have come to no agreement so far. The general belief is that the scale will be fixed before the month ends. All look for lower prices than last year. It seems now as if the season of navigation is to open early this spring. That being the case, the chances are for a low carrying freight on the lakes, probably in the vicinity of 75c. a ton.

Pig Iron.—Conditions have not changed. The market is firm and active, with but a scant supply of material. Bessemer and basic furnaces are especially short on material for the remainder of the first half of the year. Basic is quoted at $16 Valley furnace, with but few sales. Bessemer is bringing $16 at the furnace; No. 1 foundry is quoted at $14.75@$15 at Valley furnaces; No. 2 is quoted 50c. lower.

Finished Material.—Structural material seems to be the leader in the market this week. Contractors have been persuaded to submit their specifications on former orders and some new contracts are appearing for large amounts of steel. The market has been active this week, because consumers have feared an advance in the price and have rushed to get under cover before it comes. No advance has been seen, although there are persistent rumors of an increase in the price of angles. Bars stand now at 1.50, Pittsburg. Small orders for rails and plates have been placed. The prices remain firm. The mills are still demanding a premium on billets and the supply is too small. The premiums paid range from $1.50 to $2.50 over the Pittsburg price of $19.75.

Old Irons.—The market is strong and is represented in the following quotations: Wrought turnings, $10; cast borings, $6.50; car wheels, $19; steel rails, $16; iron rails, $21; cast scrap No. 1, $13; wrought scrap No. 1, $16.50.

Philadelphia, Pa. Mar. 21.
(From Our Special Correspondent.)

Pig Iron.—Further orders for Southern iron in Northern markets this week has been attended by hardening prices in the South, but instances came to light yesterday where orders for early summer were taken for Pennsylvania iron at what look like shaded prices, though the iron is classed "ordinary." Several transactions in foundry came to a close this week, involving deliveries as late as October. Buyers are more urgent than usual for basic iron and 25c. higher is quoted. Standard forge is getting scarcer. Prices may be fairly quoted at $14@$14.50 for basic and standard forge. Ordinary forge, $13.50 @$13.75; No. 1 X foundry, $16.25; No. 2 X, $15.25; No. 2 plain, $14.75.

Billets.—Billets have nominally advanced 50c. and orders are going in.

Merchant Bars.—The fact that common iron was shaded a tenth this week was due to the anxiety of one or two parties to make themselves safe in a few "back log" orders for the summer. Mill people want all the summer business they can get. Steel bars are 1.50@1.60c. generally; iron, 1.35@1.45c.

Skelp.—Our mills are all safe, but negotiations now under way are hanging fire because of the unwillingness of manufacturers to drop $2.

Sheets.—In a general way sheets are quoted at 2.25@3.50, but higher prices rule in small orders. The spring orders are appearing early and the industry is in a very strong position.

Pipes and Tubes.—Further advances have been made in jobbing lots and a scramble for early deliveries has added interest to the situation. All users of tubes are anxious for prompt deliveries under contract. There appears to be nothing in the way of further moderate advances.

Merchant Steel.—A lessening of demand is spoken of in this market, but agents say there is no less going into consumption. Some developments are looked for in crucible steel.

Plate.—Developments since Monday are along the line of small orders, which are in the aggregate large. Prices have not been advanced openly, but urgent buyers have paid for accommodations. There is a strong pressure now for steel for marine purposes and locomotive requirements.

Scrap.—There is a fresh scramble for scrap, particularly steel, and agents are unable to furnish all that is wanted. All good scrap is higher. Old rails go at $19 and steel at $16. Choice railroad scrap brings $20@$21. Heavy steel scrap is out of the market and would bring $16.50@$17. Machinery cast, $14@$15. Scrap dealers are seeking far and near for fresh supplies.

Steel Rails.—Actual figures are withheld, but between orders for standard and heavier sections and for girder rails a fair week's business has been done.

Pittsburg. Mar. 20.
(From Our Special Correspondent.)

Sales of Bessemer and forge iron exceeded those of last week and prices are firmer for

basic pig iron and Bessemer pig. Foundry iron prices remain unchanged and the demand is about the same. The ore producers have not yet announced a price for this season and furnacemen are annoyed over the delay. It was expected that the price would be determined at a meeting held in Cleveland last week, but it is now believed here that no prices will be arranged before April 1st. The delay, it is thought, indicates that the anticipated reduction will not be made. The market in all finished lines is unusually strong. Plates are very firm at 1.50c. and the mills in this district are stocked with orders running until late in the summer. The heavy demand for steel bars continues and one of the mills is practically out of the market. There is a good demand for Bessemer steel billets and sales this week were made at $22.50 a ton. Open-hearth billets continue scarce and are quoted at $25, but no sales were made. There has been no change in prices of structural material, but the demand is improving and considerable new business was placed during the week. The demand for black sheets is very strong and a further advance in prices is expected. The American Sheet Steel Company has ordered the Old Meadow plant at Scottdale in operation and it will be started next week. Other plants are likely to be put in operation soon.

The bi-monthly adjustment of iron, sheet and tin plate workers' wages was made during the week for the mills controlled by the Amalgamated Association of Iron, Steel and Tin Workers. There was no change in the sheet and tin workers' wages, as the sales for January and February which governs the wages for March and April were not above the base of the scale. The iron workers, however, receive an advance, as the prices of bar iron averaged 1.30c., which makes the puddling rate $4.87½ a ton, an increase of 12½c. a ton. The finishers get an advance of 2%. The time for receiving suggestions from the different lodges of the Amalgamated Association on the new wage scale ended yesterday and many were received. This is due to the fact that President T. J. Shaffer sent out circulars informing the membership of the proposals made at the special conference last month by the representatives of the Republic Iron and Steel Company. The recommendations made indicate a strong sentiment in favor of the adoption of a continuous scale or one with a non-interruption clause. If a satisfactory base price can be agreed upon there seems to be no reason why a scale cannot be prepared that will be operative for 10 or 20 years. The arbitration plan will also receive attention at the annual convention of the Amalgamated Association in May. The object is to prevent the stopping of the mills pending a settlement of the scale each year. It is proposed that each side give 90 days' notice of a desire to terminate the agreement and if a settlement cannot be reached in that time that the question in dispute be referred to a board of arbitration and that the mills continue in operation pending an adjustment.

Pig Iron.—Sales this week were heavier than last. About 15,000 tons of Bessemer pig iron were sold at $16, Valley furnaces, equivalent to $16.75, Pittsburg, for delivery during this and next month. The Carnegie Steel Company bought 20,000 tons of basic pig iron at $15.50, Pittsburg. Gray forge advanced 25c. a ton and about 11,000 tons were sold at $14.25@$14.50, Pittsburg. Prices of foundry iron remain unchanged. Small lots of No. 2 aggregating 1,000 tons were sold at $15, Pittsburg.

Steel.—Sales of Bessemer steel billets amounting to 1,000 tons were made this week at $22.50, or $2.75 above the pool price. The plate market is strong and mills are sold for several months ahead. Tank plates are quoted at 1.50c. Steel bars are also in demand and the price is firm at 1.45@1.50c.

Sheets.—There is a heavy demand for prompt shipment and prices may be still further advanced. Galvanized sheets are higher this week, being quoted at 70% off, with no allowance for freight. No. 28 gauge has advanced to 3.30@3.35c. The American Sheet Steel Company will put the Old Meadow plant at Scottdale in operation next week.

Ferro-manganese.—The price continues unchanged, 80% domestic being quoted at $62.50.

New York. Mar. 22.

The local iron market shows a continued steady demand for most finished products. In foreign trade we note recent shipments of $500,000 worth of agricultural implements to Russia; $117,000 worth of railroad material, $56,000 worth of manufactured iron, $24,000 worth of bridge material and $317,000 worth of locomotive parts to Japan; $13,000 worth of manufactured iron, $10,000 worth of manufactured steel and $30,000 worth of machinery to Australia.

Pig Iron.—Buying has shown no improvement recently and continues light. Southern irons are quoted in some cases $1 per ton higher. We quote for Northern iron, tidewater delivery: No. 1 X foundry, $16.25@$17.25; No. 2 X, $15.50@$16; No. 2 plain, $14.75@$15.25; gray forge, $14.50@$14.75. For Southern irons on dock, New York, No. 1 foundry, $15.75@$16.25; No. 2, $15.25@$15.75; No. 3, $15@$15.50; No. 4, $13.75@$14.25; No. 1 soft, $15.75@$16.25; No. 2, $15.25@$16.75.

Bar Iron and Steel.—Buying continues quite active with prices steady. We continue to quote common bars at 1.35c. for large lots on dock; refined bars, 1.45c.; soft steel bars, 1.50c.

Plates.—Prices are firmly maintained and business is good. We quote for large lots at tidewater: Tank, ¼-in. and heavier, 1.70c.; flange, 1.80c.; marine, 1.95c.; universal, 1.70c.

Steel Rails and Rail Fastenings.—There is little doing in standard sections except a fair demand from trolley companies. Export demand is rather light. Standard sections are still quoted at $26 at Eastern mills; light rails at $26@$30, according to weight. Spikes are 1.55c.; splice bars, 1.30c.; bolts, 2.10@2.25c.

Structural Material.—Demand continues fairly strong and prices are very firm. We continue to quote at tidewater: Beams, 1.65c.; channels, 1.65c.; angles, 1.30c.; tees, 1.70c.; zees, 1.65c.

METAL MARKET.

New York. Mar. 22.

Gold and Silver.

Gold and Silver Exports and Imports
At all United States ports in February and year.

Metal.	February.		Year.	
	1900.	1901.	1900.	1901.
GOLD.				
Exports	$1,403,658	$417,612	$7,094,948	$8,638,771
Imports	1,911,116	1,830,274	3,903,808	5,991,286
Excess	I. $507,458	I. $1,412,662	E. $3,191,140	E. $2,647,485
SILVER.				
Exports	4,952,844	4,580,499	9,552,043	9,370,738
Imports	2,841,033	2,829,927	5,015,606	5,998,961
Excess	E. $2,111.811	E. $1,750,572	E. $4,536 437	E. $3,371,777

These figures include the exports and imports at all United States ports, and are furnished by the Bureau of Statistics of the Treasury Department.

Gold and Silver Exports and Imports, New York

For the week ending March 21st, 1901, and for years from January 1st, 1901, 1900, 1899 and 1898.

Period.	Gold.		Silver.		Total Excess, Exp. or Imp.
	Exports.	Imports.	Exports.	Imports	
We'k	$5,445	$38,742	$810,721	$139,897	E. $637.527
1901..	9,150,965	659,215	8,535 794	868,'00	E. 16,159,544
1900..	2,920,202	1,042,966	9,037,242	987,272	E. 9 927,206
1899..	880,179	4.427,307	6,928,198	709,374	E. 2,671.696
1898..	3,702,163	20.130,569	9,131,717	1,255,600	I. 8,552,289

Exports of gold were in small parcels, to various ports; imports were from the West Indies. Exports of silver went chiefly to London; imports were from Mexico and South America.

The United States Assay Office in New York reports the total receipts of silver at 98,000 oz. for the week. This makes a total of 862,000 oz. from January 1st.

Average Prices of Silver per oz. Troy.

Month.	1901.		1900.		1899.	
	Lond'n Pence.	N. Y. Cents.	Lond'n Pence.	N. Y. Cents.	Lond'n Pence.	N. Y. Cents.
January...	28.97	63.12	27.30	59.30	27.42	59.36
February..	28.13	61.06	27.49	59 76	27.44	59.42
March.....	.....	.....	27.59	59.81	27.48	59.64
April.....	.....	.....	27.41	59.59	27.65	60.10
May.....	.....	.....	27.56	59.96	28.15	61.23
June.....	.....	.....	27.81	60.42	27.77	60.43
July.....	.....	.....	28.23	61.25	27.71	60 26
August....	.....	.....	28.13	61.14	27.62	60.00
September	.....	.....	28.85	6'.63	27 15	58.89
October ..	.....	.....	29.58	63.83	26.70	57.98
November	.....	.....	29.66	64.04	27 02	58.67
December.	.....	.....	29.68	64.14	27.21	58.99
Year.....	.....	.....	28.17	61.41	27.44	59.58

The New York prices are per fine ounce; the London quotation is per standard ounce, .925 fine.

Average Prices of Metals per lb., New York.

Month.	COPPER.		TIN.		LEAD.		SPELTER.	
	1901.	1900.	1901.	1900.	1901.	1900.	1901.	1900.
Jan.....	16.25	15.58	26.51	27.07	4.35	4.68	4.13	4.65
Feb.....	16.38	15.78	26.68	30.58	4.35	4.675	4.01	4.64
March....	.....	16.29	.....	32.90	.....	4.675	.....	4.60
April....	.....	16.76	.....	30.90	.....	4.675	.....	4.71
May.....	.....	16.34	.....	29.37	.....	4.181	.....	4.53
June.....	.....	15.75	.....	30 50	.....	3.901	.....	4.29
July.....	.....	15.97	.....	33.10	.....	4.030	.....	4.28
Augus'..	.....	16.35	.....	31.28	.....	4.250	.....	4.17
Sept.....	.....	16.44	.....	29.42	.....	4.350	.....	4.11
October..	.....	16.37	.....	28.54	.....	4.350	.....	4.15
Nov.....	.....	16.40	.....	28.25	.....	4.350	.....	4.29
Dec.....	.....	16.31	.....	26.94	.....	4.350	.....	4.25
Year.....	.....	16.19	.....	29.90	.....	4.37	.....	4.39

The prices given in the table for copper are the averages for electrolytic copper. The average price for Lake copper for the ye r 1900 was 16.52c.; for the month of January, 1901, it was 16.77c.; for February, 16.90c.

Prices of Foreign Coins.

	Bid.	Asked
Mexican dollars.....	$ .49	$ .51
Peruvian soles and Chilean pesos	.43½	.46½
Victoria sovereigns.....	4.85	4.88
Twenty francs	3.84	3.88
Twenty marks.....	4.73	4.78
Spanish 25 pesetas.....	4.78	4.82

Financial Notes of the Week.

A general easing off in business begins to be manifest, though the speculative markets are

Imports and Exports of Metals.

Port.	Week, Mar. 20.		Year 1901.	
	Expts.	Impts.	Expts.	Impts.
New York.				
(N. Y. Metal Exchange.)				
Aluminum.....long tons	.....	.....	41	25
Antimony ore... " "	.....	45	.....	188
" regulus.. " "	.....	.....	19	267
Copper, fine..... " "	260	560	15,543	3,721
" matte.. " "	81	.....	455	30
" ore. .... " "	.....	.....	.....	13,390
" ash..... " "	.....	.....	.....	.....
Iron ore ..... " "	.....	.....	.....	.....
" pig, bar, rod " "	282	112	5,462	611
" plates, sheets " "	.....	.....	201	.....
Lead. ..... " "	1,742	2,610	18,116	13,710
" ore.. ..... " "	.....	.....	.....	.....
Manganese, ore. " "	.....	777	100	2,051
Metals, old, scrap " "	13	144	604	591
Composition... " "	105	.....	3,093	.....
Nails. ..... " "	361	.....	2,343	.....
Nickel ..... " "	65	2	427	29
" ore, matte " "	.....	.....	.....	11,590
Pipe, iron & steel " "	149	.....	5,133	.....
Railr'd material. " "	391	55	7,356	530
Rails, old..... " "	.....	.....	.....	.....
Steel bars, plates " "	1,853	550	20,631	3,041
" rails. ..... " "	1,739	.. ..	22.047	.....
" wire..... " "	549	.....	7,579	.....
Tin ..... " "	.....	1,460	230	6,642
" and black plates " "	... .	457	.....	5,791
" dross..... " "	.....	.....	.....	.....
Zinc..... " "	155	.....	475	523
" dross..... " "	.....	.....	123	.....
" ashes, skim " "	10	.....	245	.....
" ore..... " "	.....	.....	4,109	.....
Baltimore.				
(Special Correspondence).				
Antimony.....long tons	.....	.....	.....	10
Copper, fine..... " "	846	23	5,763	1,598
Iron pig, bar, etc. " "	.....	.....	1,218	1,760
" ore..... " "	.....	6,890	.....	53,924
Manganese ore.. " "	.....	.....	.....	3,250
Nails ..... " "	.....	.....	306	.....
Pipe, iron & steel " "	70	.....	652	.....
Spiegeleisen..... " "	.....	60	.....	185
Steel, bars, etc.. " "	166	.....	29,216	67
" wire ..... " "	.....	.....	563	24
" rails..... " "	3,856	.....	26,598	.....
Tin..... " "	.....	.....	.....	175
" and blackplates " "	.....	.....	.....	97
Zinc..... " "	.....	.....	.....	.....
Philadelphia.				
Copper, fine.....long tons	.....	.....	493	.....
" ore. ..... " "	.....	.....	.....	7,860
Iron, pig, bar ... " "	.....	.....	134	1,407
" ore ..... " "	.....	2,300	.....	55,010
" pipe ..... " "	454	.....	772	.....
Lead..... " "	.....	.....	200	.....
Metals, old ..... " "	18	.....	29	.....
" composition " "	.....	.....	7	.....
Nails ..... " "	.....	.....	44	.....
Railroad material " "	87	.....	149	.....
Steel, bars, etc.. " "	51	.....	3,587	.....
" rails ..... " "	207	.....	3,776	.....
" wire ..... " "	33	.....	150	.....
Tin ..... " "	.....	.....	.....	140
" and black plates " "	.....	9	.....	13
Zinc ore. ..... " "	.....	.....	2,061	.....
" dross ..... " "	.....	.....	77	.....
" ash .... . " "	.....	.....	32	.....

Total United States.

Articles.	Jan., 1901.		Jan., 1900.	
	Expts.	Impts.	Expts.	Impts.
Antimony.....long tons	.....	171	.....	86
" ore.... " "	2	17	.....	342
Copper, in all forms..... " "	10,003	7,980	14,035	6,435
Iron, pig & bar.. " "	24,722	2,276	9,931	6,841
" ore..... " "	440	33,353	.....	89,715
Iron & steel plates " "	5,235	188	1,985	1,171
Iron & steel rails " "	25,596	116	17,406	288
" " wire " "	6,339	828	6,229	137
Lead, in all forms " "	10,381	15,512	4,779	4,302
Manganese ore and oxide..... " "	.....	8,809	.....	35,256
Nickel " & matte " "	240	12	131	.....
Nails, cut..... " "	3,167	.....	835	.....
" wire..... " "	1,693	.....	4,195	.....
Quicksilver..... " "	24	.....	27	.....
Steel, billets, rods, etc..... " "	8,987	1,241	2,339	4,596
Tin..... " "	52	3 316	8	4,927
" & black plates " "	101	4,495	15	6,389
Zinc ..... " "	50	129	1,096	224
" ore ..... " "	3,761	.....	2,259	.....

Import Duties on Metals.

The duties on metals under the present tariff law are as follows: Antimony, metal or regulus, ¾c. a lb. Lead, 1½c. a lb. on lead in ores; 2½c. per lb. on pigs, bars, etc.; 2½c. on sheet, pipe and manufactured forms. Nickel, 6c. per lb. Quicksilver, 7c per lb. Spelter or zinc, 1½c per lb. on pigs and bars, 2c. on sheets, etc. Copper, tin and platinum are free of duty.

still at high pressure. Money is not so easy in New York, and rates are somewhat higher. There seems to be a stronger tendency to speculative buying.

The silver market has displayed very little activity. The disposition has been toward slightly lower prices. This tendency has been accentuated to-day by the friction in Chinese affairs.

The statement of the United States Treasury on Wednesday, March 20th, shows balances in excess of outstanding certificates as below, compared with the corresponding day last week:

	Mar. 13.	Mar. 20.	Changes.
Gold	$89,683,755	$93,250,351	I. $3,566,596
Silver	18,577,329	18 147,888	D. 429,441
Legal tenders	11,237,322	9,597,435	D. 1,639,887
Treas. notes, etc.	111,553	139,485	I. 27,932
Totals	$119,609,959	$121,135,159	I. $1,425,200

Treasury deposits with national banks amounted to $97,249,238, showing a decrease of $840,685 as compared with the corresponding day last week.

The statement of the New York banks—including the 66 banks represented in the Clearing House—for the week ending March 16th, give the following totals, comparison being made with the corresponding week in 1900 and 1899:

	1899.	1900.	1901.
Loans and discounts	$773,951,800	$751,891,700	$914,812,700
Deposits	898,851,700	814. 82,700	1,066,185,600
Circulation	13,886,900	18 869,400	31,585,600
Reserve:			
Specie	190,059,300	147,276,500	189,428,100
Legal tenders	53,727,800	58,930,600	72,120,900
Total reserve	$243,787,100	$206,207,100	$261,549,000
Legal requirements	224,712,925	203,5?0,675	251,546,400
Balance, surplus	$19,074,175	$2,686,425	$10,002,600

Changes for the week, this year, were an increase of $116,600 in circulation; decreases of $3,976,900 in loans and discounts, $5,742,900 in deposits, $1,706,000 in specie, $444,400 in legal tenders, and $714,675 in surplus reserve.

The following table shows the specie holdings of the leading banks of the world at the latest dates covered by their reports. The amounts are reduced to dollars, and comparison is made with the holdings at the corresponding date last year:

Banks.	1900. Gold.	1900. Silver.	1901. Gold.	1901. Silver.
N.Y. Ass'd	$147,276,500	.....	$189,428,100	.....
England	179,190,490	.....	182,099,660	.....
France	387,198,130	$227,983,455	475,064,240	$218,793,725
Germany	140,305,000	72,250,000	148,295,000	76,395,000
Spain	68,265,000	75,260,000	70,010,000	82,175,000
Neth'l'ds	26,130,000	30,195,000	25,288,000	28,?6,000
Belgium	14,905,000	7,455,000	14 960,000	7,480,000
Italy	77,140,000	7,990,000	76 740,000	9,336,500
Russia	418,455,000	31,570,000	370,580,000	34 895,000

The returns of the Associated Banks of New York are of date of March 16th and the others are of date of March 15th, as reported by the "Commercial and Financial Chronicle" cable. The New York banks do not report silver separately, but the specie carried is chiefly gold. The Bank of England reports gold only.

Shipments of silver from London to the East for the year up to March 17th, 1901, are reported by Messrs. Pixley & Abell's circular as follows:

	1900.	1901.	Changes.
India	£985,727	£1,69?,500	I. £712,773
China	209,229	74,875	D. 134,3?4
The Straits	12,250	48,976	I. 36,726
Totals	£1,207,206	£1,822,351	I. £615,145

Arrivals for the week, this year, were £170,000 in bar silver from New York, and £11,000 from Chile; total, £181,000. Shipments were £93,000 in bar silver to Bombay and £122,000 to Calcutta; total, £215,000.

Indian exchange is somewhat easier and Council bills were freely taken in London at 15.91d. per rupee. The movement of gold from Australia to India has ceased for the present; and there is very little buying of silver for Indian account just now.

The foreign merchandise trade of Great Britain for the two months ending February 28th is given by the Board of Trade returns as follows:

	1900.	1901.
Imports	£82,200,722	£85,701,955
Exports	57,780,931	56,808,581
Excess, imports	£24,419,791	£28,893,374

The increase in imports was £3,501,233, or 4.2%, while the decrease in exports was £972,350, or 1.7%; leaving an increase of £4,473,583, or 18.3%, in the excess of exports.

Other Metals.

Daily Prices of Metals in New York.

March.	Sterling Exchange.	Silver. Fine oz. Cts.	Silver. London. Pence.	Copper. Lake. cts. ₱ lb.	Copper. Electrolytic ₱lb.	Copper. London. £ ton.	Copper. Tin. cts. ₱ lb.	Lead. cts. ₱ lb.	Spelter. N.Y. cts.. ₱ lb.	Spelter. St. L. cts. ₱ lb.
16	4.87⅛	60⅞	28⅛	16⅞ @17	16.35 @16.45	....	25¾	4.32½ @4.37½	3.90	3.75
18	4.87⅛	61	28⅛	16⅞ @17	16.35 @16.45	67½	25⅝	4.32½ @4.37½	3.90	3.75
19	4.87⅛	60⅞	28⅛	16⅞ @17	16.35 @16.45	69	25½	4.32½ @4.37½	3.87½	3.72½
20	4.87¾	60⅞	28⅛	16⅞ @17	16.35 @16.45	68⅝	25¼	4.32½ @4.37½	3.85	3.70
21	4.87¾	60⅝	27⅞	16⅞ @17	16.35 @16.45	68⅛	25¼	4.32½ @4.37½	3.85	3.70
22	4.88	60¼	27¾	16⅞ @17	16.35 @16.45	68¾	25½	4.32½ @4.37½	3 85	3.70

London quotations are per long ton (2,240 lbs.) standard copper which is now the equivalent of the former g. m. b's. The New York quotations for electrolytic copper are for cakes, ingots or wirebars; the price of electrolytic cathodes is usually 0.25c. lower than these figures.

Copper.—The market is unchanged. Manufacturers in this country, though very busy, have not been buying much. Abroad demand has somewhat improved, as buyers' stocks are quite depleted. Various transactions are reported by cable, though at low figures. We quote Lake copper at 16⅞@17c.; electrolytic in cakes, wirebars or ingots at 16.35@16.45c.; in cathodes at 16.10@16.20c.; casting copper at 16⅜c.

The market for standard copper in London, which closed last week at £68 15s. for spot, £69 5s. for three months, opened on Monday at £67 10s. for spot, £68 for three months. On Tuesday it was again £69 for spot, £69 10s. for three months, by Thursday it had declined to £68 13s. 9d. for spot, £69 3s. 9d. for three months, and at the close the quotations are cabled as £68 15s. for spot and £69 5s. for three months.

Refined and manufactured sorts we quote: English tough, £73@£74; best selected, £75@£75 10s.; strong sheets, £84; India sheets, £81; yellow metal, 6½d.

Imports of copper into Great Britain for the two months ending February 28th were as follows, the totals being reduced to fine copper. The figures are in long tons:

	1900.	1901.	Changes.
Copper ore	29,346	12,891	D. 16,455
Matte and precipitate	14,240	11,296	D. 2,944
Fine copper	11,840	9,753	D. 2,087
Totals, fine copper	19,253	15,530	D. 3,723

Of the total this year the United States furnished 123 tons ore, 2,407 tons matte and 3,105 tons fine copper.

Tin.—The market has been quiet and weakish and the metal has sold down as low as 25¼c. A fair business has been done at the lower prices. At the close we quote 25½s. for spot.

The London market has again declined. It closed last week at £116 for spot, £113 7s. 6d. for three months, and opened on Monday £1 lower. On Tuesday it declined a further £1, and on Wednesday it was £114 for spot, £111 15s. for three months. On Thursday it was down further 12s. 6d., and it closes at £113 7s. 6d. for spot, £111 10s. for three months.

Imports of tin into Great Britain for the two months ending February 28th were: Straits, 4,581; Australasia, 569; other countries, 935; total, 6,085 long tons, against 5,294 in 1900, showing an increase of 771 tons, or 14.6%. Exports of tin for the two months were 4,086 tons, against 3,787 tons last year.

Lead.—A fair business is being done, and indications for the spring and summer trade are encouraging. We still quote 4.22½@4.32½c., St. Louis, 4.32½@4.37½c. New York.

The foreign market declined early in the week, but recovered again, and at the close Spanish lead is quoted at £13 1s. 3d.@£13 3s. 9d., English lead 5s. higher.

Imports of lead into Great Britain for the two months ending February 28th are reported as follows, in long tons:

	1900.	1901.	Changes.
United States	6,945	8,981	I. 2,036
Spain	12,387	13,671	I. 1,284
Australasia	8,769	10,667	I. 1,898
Other countries	2,657	1,948	D. 709
Totals	30,758	35,267	I. 4,509

The lead credited to the United States is chiefly Mexican lead refined here in bond.

St. Louis Lead Market.—The John Wahl Commission Company telegraphs us as follows: Lead is unchanged, 4.22½c. being the price of chemical lead and Missouri refined and 4.32½c. for argentiferous lead. Trading has been rather light in last few days.

Spelter.—The market is very dull. Consumption is good, but buyers appear to be fairly well covered and there are sellers over. Prices have declined somewhat, and we quote St. Louis at 3.70c., New York at 3.85c.

The foreign market is again somewhat lower, good ordinaries being quoted at £16 5s., specials 5s. higher.

Imports of spelter or metallic zinc into Great Britain for the two months ending February 28th were 8,281 long tons, against 11,755 tons in 1900; showing a decrease of 3,474 tons, or 29.5%, this year.

Antimony.—There is no change. We quote Cookson's at 10c.; Hallett's Hungarian, Italian and U. S. Star at 8¾c.

Nickel.—The price continues firm at 50@60c. per lb., according to size and terms of orders.

Platinum.—Consumption continues good and prices are strong. For ingot platinum in large quantities $18.20 per Troy oz. is quoted in New York. In London a recent quotation gives 75s. per ounce, unmanufactured, and 77s. 6d.@80s. for crucibles, etc. This is very nearly on a parity with New York prices.

Chemical ware (crucibles and dishes), best hammered metal from store in large quantities, is worth 2c. per gram.

Quicksilver.—While $51 is still nominally quoted in New York, there has been some selling at $48.75@$50 per flask for large lots; while $50@$51 is quoted for small orders. San Francisco quotations are $47.50@$48 for domestic orders, $43@$43.50 for export. The London price is £9 2s. 6d. per flask.

Quicksilver receipts at San Francisco in February were 2,203 flasks. For the two months ending February 28th they were 4,104 flasks, against 3,713 last year. These figures do not include shipments direct from the mines to consumers. Shipments from San Francisco by water for the two months were 856 flasks, against 2,251 in 1900. The shipments this year were as follows: Mexico, 603; Central America, 202; Korea, 12; British Columbia, 4; New York, 35 flasks.

Imports of quicksilver into Great Britain for the two months ending February 28th were 447,150 lbs. (97,888 lbs., 1900). Exports were 193,806 lbs. (301,250 lbs., 1900); showing this year a balance of 253,344 lbs. consumed or added to stocks.

Minor Metals and Alloys.—Wholesale prices, f. o. b. works, are as follows:

Aluminum.	Per lb.
No. 1, 99% ingots	33@37c.
No. 2, 90% ingots	31@34c.
Rolled sheets	42c. up
Alum.-bronze	20@23c.
Nickel-alum	33@39c.
Bismuth	$2.25
Chromium (over 99%)	1.00
Copper red oxide	50c.
Ferro-Molyb'um (50%)	$1.00
Ferro-Titanium (10%)	90c.

	Per lb.
Ferro-Titanium (20%)	$1.00
Ferro-tungsten (37%)	32c.
Magnesium	$2.75@$3
Manganese (over 99%)	$1.00
Mangan'e Cop (20% Mn)	32c.
Mangan's Cop (30% Mn)	38c.
Molyb'denum (Best)	$1.45
Phosphorus	50c.
American	70c.
Tungsten (Best)	78c.

Variations in prices depend chiefly on the size of the order.

LATE NEWS.

The argument before the New Jersey Court of Errors and Appeals in the American Smelting and Refining Company case has been postponed until Monday, March 25th.

We have received the following statement: "The official receiver appointed by the Board of Trade in England advertised to sell the property of the Panuco Copper Company, Limited, on March 20th, 1901, at noon, at public auction at the New York Real Estate Salesroom, New York City. The property of the Panuco Copper Company is located within the republic of Mexico. On March 19th Joseph A. Robertson, one of the stockholders of the company, published a protest in the New York 'Evening Post,' and also in newspapers in Mexico, against such proposed sale. At the advertised hour Messrs. Richard V. Harnett & Co., the auctioneers, offered the property for sale, reading the advertisement of sale; then Henry Wollman, of 20 Broad Street, New York City, counsel for Joseph A. Robertson, the protesting stockholder, read Mr. Robertson's protest, and then on behalf of Mr. Robertson, protested further against the sale taking place. The principal ground of protest against the sale was that the official receiver had no authority to sell the property in New York City or anywhere outside of the republic of Mexico, but quite a number of other grounds were also given. After Mr. Wollman's protest, the auctioneers then offered the property for sale. There were no bidders for any amount sufficient to justify the acceptance of a bid, and the sale, at the request of Messrs. Strong & Cadwalader, attorneys for the official receiver, was adjourned by the auctioneers until April 10th, 1901."

(From Our Special Correspondent.)

Pittsburg, Pa., March 21st.—The price of Bessemer pig iron is higher to-day, a sale of 5,000 tons having been made at $16.50, Valley furnaces, or $17.25, Pittsburg. The total sales of pig iron this week, including 20,000 tons of basic and 11,000 tons of gray forge, exceed 50,000 tons. An additional advance in sheets of $3 a ton made by the American Sheet Steel Company was unexpected. The combination is not making quotations for delivery beyond 60 days, which is an indication that a still further advance may be made.

MINING STOCKS.

Complete quotations will be found on pages 379 and 380 of mining stocks listed and dealt in at:

Boston.	Salt Lake.	Montreal.
Colo. Springs.	San Francisco.	London.
Denver.	Spokane.	Mexico.
New York.	St. Louis.	Mexico.
Philadelphia.	Toronto.	Paris.

There was little change in prices of leading mining stocks, although the sales were smaller than last week. Amalgamated Copper fluctuated between $102½ and $100¼, while Anaconda sold at $46½@$45. A small block of Union Copper, of North Carolina, sold on curb at $4.

Ontario, of Utah, is very firm and higher, having sold at $10, the best price in over a year.

Standard Consolidated, of California, is strong at $4.10, while Brunswick is offered at 24c.

Portland, of Cripple Creek, recovered to $3, and Isabella is up 3c. at 75c. Elkton is uneasy on account of heavy flow of water in the mine, and so sold at $1.65.

Kingston & Pembroke, of Ontario, reappeared with a sale at 25c.

The Comstocks are lagging. Consolidated California & Virginia sold at $1.60, and Ophir at 64@66c.

Attention is directed to the steel securities, and during the past week large sales have been made at advancing prices. An official statement gives the following percentages of stock deposited in the great steel consolidation known as the United States Steel Corporation:

	Preferred.	Common.
Federal Steel Co.	97%	96%
National Steel Co.	97%	98%
National Tube Co.	98%	93%
American Steel and Wire Co. of New Jersey	97%	92%
American Tin Plate Co.	94%	99%
American Steel Hoop Co.	97%	98%
American Sheet Steel Co.	97%	94%

These deposits were made within the time limit (March 20th), but in order that all stockholders may participate in the consolidation this time limit has been extended to April 1st, 1901. After this date no deposits of stock will be received except at the discretion of the syndicate managers and on such terms as they prescribe.

In anticipation of being absorbed by the steel combination, the shares of the Lake Superior Consolidated Iron Mines have been very active on curb, selling at $125 to $155 this week. This company has an authorized capital stock of $30,000,000, divided into $100 shares, of which $29,887,449 have been issued. Its iron ore properties are mostly in Minnesota.

Subscriptions are being solicited through good-sized advertisements in the daily papers for a new Arizona concern, called the Arizona Blue Bell Copper Company. A prominent name in the board of directors is J. Edward Addicks. The company has a capital stock of $500,000, in $1 shares, but asks bids at $25 per share, or at the rate of $12,500,000 for the property, which is in the Big Bug District, of Yavapai County, Arizona.

The General Concentrates Company, of New York, capital $5,000,000, to acquire rights to manufacture, use and sell machines for crushing, drying and separating ore under the patent applications belonging to the Hooper Pneumatic Milling Company of New York, has been incorporated under New Jersey law. The corporators are A. P. Nevin, H. M. Post and C. M. Gilpin, of New York, and H. G. Knowles, of Wilmington, Del.

At the recent annual meeting of the National Wire Corporation, held in New Haven, Conn., the following officers were elected: President, E. R. Hastings, of Boston, Mass.; treasurer, Everett B. Webster, New Haven; secretary, Walter H. Seaver, New Haven; assistant treasurer, William E. Hitchcock; directors, Theodore B. Casey, Edwin W. Cates and George E. Armstrong, all of Boston, Mass. The president and treasurer are also directors, making a board of 5 members.

The Metals Casting Company, a Springfield, Mass., concern, has filed a charter under New Jersey laws. The company propose to make metal castings by a new process. The capital is $150,000 in shares of $10 each. The officers are: President, Edward P. Chapin; vice-president, Arthur I. Nash; treasurer, W. Fred. P. Fogg; secretary, Frederick Carpenter; superintendent, Moro D. Stebbins. Directors: Edward P. Chapin, Arthur I. Nash and Fred. P. Fogg, of Springfield; John D. White, of Chicopee, George Nightingale, of Holyoke, Gommer P. Jones, of Boston, Moro D. Stebbins, of Springfield, Frederick Carpenter, of Holyoke, Harry H. Picking, of East Orange, N. J.

Our Joplin correspondent says Receiver W. K. Trimble is in possession of the property of the International Zinc Company and a list of the stockholders has been turned over to him by the late president, Charles W. Johnson. C. H. A. Dougherty, of New York, is seeking to reorganize the company and buy out the mortgage on the property. If this is done and the company capitalized for $200,000, it should pay dividends, as the fee of the Free Coinage tract of 110 acres can be readily leased if the company puts in pumps to drain the ground. The property in the hands of the receiver consists of the Free Coinage tract of 110 acres, the Blue Wing lease of 25½ acres, and the Mayne lease of 48 acres at Galena. There are 3 mills on these tracts probably worth $15,000. The original cost of these properties to the company was $160,000, of which $131,300 was paid, leaving $29,500 due on the fee of the Free Coinage, without which the other properties would be worthless, except for the comparatively small amount which could be realized from the sale of the mills. The stock certificate books of the concern are badly mutilated and an evident attempt was made to cover up all the operations of the company. Salaries were paid right along to officials who have denied their connection with the company and the most scandalous mismanagement is apparent at every step of the company's operations as revealed by the private books and papers of the company now in the hands of Receiver Trimble.

Boston. Mar. 20.

(From Our Special Correspondent.)

We have had a busy week on the Exchange. Trading has been active and there has been quite a fair imitation of a boom. The demand for the newer lake coppers has shown up very strong, running up some of them to fancy prices which are hardly likely to hold. The dividend-paying coppers were quieter, so far as the volume of business was concerned, but quotations are high enough.

There was also a demand for Bingham and for United States Mining, the last-named stock easily leading in the extent of sales. The blind pool stocks were rather neglected—or let alone. Most people are afraid of them, the chances being too uneven.

Centennial-Eureka was in demand at a good price, and a lot of sales were made.

To show the volume of business, I may say that to-day about 54,000 shares of mining stocks were traded in during the morning, 10,000 shares in United States Mining alone, with 4,300 shares of Centennial-Eureka, 4,400 shares of Centennial, 4.200 Bingham, 3,500 Trimountain, 1,500 Copper Range, 1,600 Baltic, 1,200 Arcadian, 1,900 United States Oil, 1,400 Mohawk, 6,700 Santa Fe, and so on. This afternoon there was a general reaction in prices.

The Arizona Blue Bell Copper Company is advertised here, as it has been in New York. I have not heard of many buyers yet, though it is possible that the big bluff of charging $25 for a $1 share may succeed with a certain class of people. The name of J. Edward Addicks adorns the list of directors; it will attract some people, but will keep more away.

We continue to have all sorts of rumors about consolidating Butte & Boston and Boston & Montana. There is little doubt that such a plan is on foot, and will be carried out if there is not too much kicking. The current reports are largely feelers.

Colorado Springs. Mar. 16.

(From Our Special Correspondent.)

At the annual meeting of the stockholders of the Anaconda Gold Mining Company 9/15 of the stock was represented. The following directors were elected: John E. Hundley, F. E. Robinson, W. P. Sargeant, W. J. Chambers and K. McKinzie. Afterward the directors met and elected as officials, John E. Hundley, president; W. P. Sargeant, secretary and treasurer, with a vice-president and general manager to be elected later. It seems quite certain that Mr. Chambers will be elected general manager, as his services are appreciated by the company.

A consolidation of a number of fractional claims on Bull Hill, about 9 acres of ground, has resulted in the formation of the Flying Cloud Gold Mining Company, capitalized for 1,250,000 shares at $1 par, with 200,000 to remain in the treasury. The officers and directors are: President, Charles Farnsworth; secretary, George W. Bierbauer; treasurer, H. L. Davidson; directors, H. L. Sheped, F. E. Brooks, R. Griswold and J. Finley. This property is in the vicinity of the well-known Pinnacle property at Cripple Creek.

Salt Lake City. Mar. 16.

(From Our Special Correspondent.)

During the week ending March 16th, there has been sold on the local stock exchange during the official call and the afternoon open call combined 311,210 shares, selling for $195,991. This is among the largest records for weekly sales for the past two years. Ontario sold on Thursday on exchange 1,000 shares at $9, and on Saturday $9.50 was freely bid, with no takers.

As a result of a story circulated to the effect that a body of good ore had been uncovered in the Northern Light, its stock went up from 5c. to 15c. on the 14th. It is rumored that the management has known of this fact and been taking out ore for some time, but kept the real conditions dark in order to gobble up stock at a low figure. It would appear that the shareholders of Northern Light should receive whatever benefits there might accrue, as they have been compelled to stand for successive assessments to a total of 24c. per share during the past few months.

San Francisco. Mar. 16.

(From Our Special Correspondent.)

The market has been quiet, as usual, this week and prices have shown little variation. The only sensation was caused by the action of the directors of the Occidental Consolidated Mining Company, who decided to instruct the attorney of that company to demand $127,292 damages of the Comstock Tunnel Company, to bring suit for the recovery of that amount of money. It is explained that $27,292 is the amount paid by the Occidental Company to the Comstock Tunnel Company under contracts for running the Zadis drift on the tunnel level, and the remaining $100,000 represents the damage alleged to have been sustained for preventing the Occidental Company from working in that drift. The Comstock Tunnel Company refused to permit wires to be strung along the tunnel conveying electric power to the face of the drift unless extra payment were made by the companies at work on the Brunswick Lode.

On the Producers' Oil Exchange business was active and prices generally good. There was a strong demand for shares of producing companies, while the more speculative prospects were not neglected. Bear Flag, a new company, was largely dealt in, while transactions were heavy in San Joaquin, Independence and Oil City.

On the San Francisco Oil Exchange business has run more toward prospects, California Standard and Lion have been special favorites. Last week's business on this exchange showed a total of 150,777 shares sold, the total amount being $99,134. The largest dealings were in California Standard—47,800 shares—Independence, Reed Crude and Oil City.

London. Mar. 5.

(From Our Special Correspondent.)

The South African mining market again showed a little briskness this week, chiefly due to continental inquiries following General French's successes in the east of the Transvaal. The market was also considerably brightened by the circumstantial report that Botha had capitulated. We have had many rumors relating to the war passed round the market, but none seemed so well founded as this one. Most City men were inclined to believe it, so that the market stiffened up considerably. As the rumor turned out to be lacking in foundation, the market fell away again and at the time of writing it is in the dumps. The West Australian section is now quite neglected except by a few stray professional dealers. No news about sulphide plants comes to hand, and generally everything is pretty dull. The West African section has not yet recovered from the blow it received last week by the publication of the letter from Mr. Chamberlain, warning investors against rash ventures in this gold-field. No new issues have been made since then, and business in the shares of existing companies on the Exchange has been very flat.

The collapse of the Whitaker Wright group is beginning to look as if it were to be more than temporary. The quotations of the shares in all the companies of the group are at extremely low levels and in many cases are purely nominal. The London business of the companies appears to be entirely at a standstill and in many cases operations at the mines are curtailed. The reconstruction scheme for the London & Globe is in abeyance, as the Stock Exchange supporters do not think it advisable to go on with it at present. Altogether, the London mining market is in a very flat and uninteresting condition.

Very few of the multitude of Klondike companies floated in London two or three years ago have ever brought any return to shareholders. One of the exceptions to the rule is the Klondike Consols, Limited. This company in the autumn of 1899 acquired a number of claims on Eldorado, Bonanza and Hunker creeks as going concerns. During the summer of 1900 the output of gold was £94,000, out of which a net profit was made of £51,000. The company has a nominal capital of £250,000, but the public were never invited to subscribe for any, nor was there any cash consideration included in the purchase price. Of course the vendors' shares have been sold here and there, and buyers may debate the question within themselves whether the eventual profits will exceed the capital. But so far the company has made an excellent start

and with improved machinery and a continuance of good luck, the coming seasons may bring handsome profits.

Paris. Mar.10.

(From Our Special Correspondent.)

The mining stock market continues uncertain, but there is manifest a downward tendency in all except a few sections of the Bourse. The uncertainties of the situation in China are especially depressing.

The South African gold stocks are much quieter, the disposition to buy having apparently disappeared. The situation in the Transvaal is too uncertain to base any predictions upon.

The metallurgical stocks are firmer, though not higher. It begins to be apparent that we shall escape the industrial crisis from which Russia, Germany and Belgium have been suffering. The companies have generally taken advantage of two prosperous years to strengthen their financial positions. Some advantage is hoped for here from the tariff dispute between your country and Russia. It is quite possible that French workshops may secure some Russian orders which would otherwise have gone to the United States.

The zinc and lead stocks are weaker on account of the falling prices of the metals. Le Nickel, however, is strong.

While copper prices are lower, the copper stocks remain high. Speculation in Rio Tintos is very strong and the other prominent shares also bring high prices. The Berlin interest in Rio Tintos is again large and speculators have been pushing quotations lately.

I learn that the Mint marks on French coin are about to be re-established. When there were mints in several of the great cities, the money issued by each was distinguished by a letter or some other conventional mark, the letter A being reserved for the Paris Mint. When all coinage operations were centralized in Paris the marks were suppressed as useless. The reason given for the revival of the marks is that they may assist in the detection of counterfeit coin. They will be changed at irregular periods, and may be a letter or some other small design.

The miners' strike at Monteau and other places are assuming importance. Our Ministry of Commerce is apparently committed to the enactment of laws of a radical kind; and such action would not be taken without the support of the Government. The strikes may be expected to extend, and possibly to result in formidable injury to industries of different kinds.

The latest measure proposed is that in case the companies at Monteau will not accept arbitration, the Government should take possession of the mnes and work them. This is certainly radical enough.

Azote.

DIVIDENDS.

NAME OF COMPANY	Latest Dividend. Date.	Per share.	Total.	Total to date.
Adams, Colo.	Apr. 15	$0.05	$ 7,500	$ 708,500
§Am Agric Chem ,pf.	Apr. 1	3.00	510,000	2,040,000
†Am. Sm. & Ref, pf.	Apr. 9	1.75	479,500	3,641,553
†Am. Steel&Wire,com	Apr. 2	1.25	625,000	4,125,000
†Am. Steel & Wire, pf	Apr. 2	1.75	700,000	7,000,000
*Arizona W. Oil, Cal.	Mar. 25	.02	2,000	12,000
†Boston & Colo Sm.	Apr. 1	.75	11,250	337,500
§Cambria Iron	Apr. 1	1.00	169,320	845 600
†Centennial Eureka, U	Apr. 1	.50	50,000	2,517,700
*Center Star, B. C	Apr. 1	.01	35,000	175,000
*Central Oil, Cal.	Mar. 25	.01	6.628	92,792
*Consolidated, Colo.	Mar. 25	.01	10,000	160.000
Continental Oil. Cal.	Apr. 1	.03	7,200	7,200
†Crucible Steel, pf	Mar. 30	1.75	426,994	853,982
*Doc'r Jack-Pot. Colo	Mar. 25	.01	29,000	87,000
†Federal Steel, pf.	Apr. 20	1.50	798,914	8,255,482
Four Oil, Cal	Mar. 15	.01	3.000	6,000
*Gold Coin, Colo.	Mar. 25	.03	30,000	690 000
*Homestake, S. Dak.	Mar 25	.50	105,000	9,718,750
Mammoth, Utah	Mar. 18	.05	20,000	1,830,000
†Napa Quicksilver	Apr. 1	.10	10 000	1,120,000
†National Steel, pf.	Mar. 30	1.75	472 500	3,780,000
†National Tube, pf.	Apr. 1	1.75	699,935	4,899,546
†New Haven I. & S.	Apr. 1	.10	10,000	112,500
†New Iaria Quicksil.	Apr. 1	.20	20,000	290,000
*Pacific Coast Borax.	Mar. 29	1.00	19,000	819,000
†Penna. Steel, pf.	Apr. 15	1.75	26,250	183,750
†Republic I. & S. pf.	Apr. 1	1.75	355,371	2,487,596
†Sloss Sheffield, pf.	Apr. 1	1.75	117,250	573,250
†Texas & Pacific Coal	Apr. 26	1.50	30,000	1,860,000
Utah, Utah	Mar. 25	.02	2,000	183,000

*Monthly. †Quarterly. §Semi-Annually.

ANNUAL MEETINGS.

Name of Co.	Locat'n.	Date.	Place of Meeting.
*Alice	Wash.	April 15	Spokane, Wash.
Butte & Boston.	Mont.	April 2	52 Broadway, N. Y.
Centenial Cop'er	Mich.	April 2	60 State St , Boston.
Champion	Cal.	April 13	San Francisco, Cal.
Columbia Lead.	Mo.	April 13	St. Louis, Mo.
Franklin	Mich.	April 18	19 C'gress St , Boston
National Salt.	....	Mar. 27	Jersey City, N. J.
*Ridge & Valley.	Utah.	Mar. 23	Salt Lake City, Utah.
Sacramento.	Utah	April 10	Salt Lake City, Utah.
South Swansea.	Utah.	April 3	Salt Lake City, Utah.
Sunshine	Utah.	Mar. 30	Salt Lake City, Utah.
Un.C Land&Mg.	Mich.	Mar. 28	60 State St., Boston.
Washingt'n Cop	Mich.	Mar. 26	60 State St., Boston.

*Special Meeting.

ASSESSMENTS.

NAME OF COMPANY.	Location.	No	Delinq.	Sale.	Amt.
Alliance	Cal.	3	Mar. 18	Apr. 8	.02
Alpha Con	Nev.	24	Mar. 11	Apr. 2	.03
Belcher	Nev.	68	Apr. 9	Apr. 30	.10
Centennial	Mich		Apr. 12		2.00
Chollar	Nev.	54	Mar. 18	Apr. 9	.10
Diamond Con	Utah	2	Apr. 8	Apr. 25	.04
Eutonia	Utah	5	Mar. 12	Mar. 28	.00½
Gold Hill	Cal.		Mar. 27		.25
Gould & Curry	Nev.	91	Apr. 8	Apr. 29	.10
Jenny Lind	Cal.		Mar 27		.01
Leo	M'nt		Mar. 13	Apr. 4	.00¼
Little Chief	Utah	6	Mar. 15	Apr. 4	.01
Maple Creek	Cal.	1	Mar. 13	Apr. 3	.10
Mariposa Com'l & Mg.	Cal.	21	Apr. 11		10.
McKinley	Utah		Mar. 18	Apr. 13	.00½
Melcher	Utah	3	Apr. 9	Apr. 24	.00¼
Mexican	Nev.	66	Mar. 2	Apr. 15	.15
Old Susan	Utah		Apr. 13		.00½
Overman	Nev.	7	Apr. 10	Apr. 30	.05
Petroleum Center	Cal		Apr. 3		.05
R. G. W	Utah		Mar 27	Apr. 16	.00½
Sailor Con	Cal.	9	Apr. 15	May 9	.01
Seg. Belch. & Mides.	Nev.	27	Apr. 3	Apr. 23	.03
Shoebridge Bonanza.	Utah	8	Apr. 9	Apr. 30	.01
Snow Flake	Utah	19	Apr. 15	May 1	.01
Snowstorm	Utah	1	Apr. 15	May 15	.00¼
Sonora	Cal.		Mar. 30	Apr. 12	.02
Spanish Con	Cal.	4	Mar. 19	Apr. 8	.05
Tetro	Utah	18	Apr. 12	May 4	.01½
Tule Belle	Cal.		Mar. 23		.02

STOCK QUOTATIONS.

NEW YORK.

NAME OF COMPANY.	Location.	Par val.	Mar. 15. H.	Mar. 15. L.	Mar. 16. H.	Mar. 16. L.	Mar. 18. H.	Mar. 18. L.	Mar. 19. H.	Mar. 19. L.	Mar. 20. H.	Mar. 20. L.	Mar. 21. H.	Mar. 21. L.	Sales
Alamo	Colo.	1					.14								1,000
Amalgamated c.	Mont.	100	102⅝	101	102	100⅝	102⅝	101⅜	102¾	100⅝	102	100⅞	101⅜		60,559
Anaconda, c.	Mont.	25	45.75	45.25	45.25	45.00	46.25	45.00	46.50	46.25	46.25	45.50	45.75		5,200
Anaconda Gold.	Colo.	5					.42								300
Argentum-Jun.	Colo.	2	.25												100
British Col. Cop.	B. C.	5	20.25	19.75	20.25	19.75	20.50	20.00	20.50	20.00	20.13	20.00	20.50	20.00	
Brunswick Cons.	Cal.	1							.24						500
Comstock T.	Nev.	100			.05½				.05½						800
Con. Cal. & Va.	Nev.	2⅝	1.55						1.90						250
Crown Point	Nev.	2	.10												
Cripple Cr. Con	Colo.	1					.12		.12						2,500
Deadwood	S. Dak	25													
Dunkin	Colo.	25					.10				.11				110
Elkton Con.	Colo.	1									1.65				300
Golden Fleece	Colo.	1			.33		.33		.30		.31				1,200
Hale & Norcross	Nev.	3					.15				.15				800
Homestake	S. Dak	100													
Horn Silver	Utah.	20			1.12										150
Iron Silver	Colo.	20													
Isabella	Colo.	1					.72		.72		.75				800
Justice	Nev.	1							.08						200
King & Pemb.	Ont.	10	.25		.25				.25						850
Leadville	Colo.	10									.05				100
Little Chief	Colo.	1	.15												100
Mollie Gibson	Colo.	5	.25												500
Ontario	Utah.	100	8.50				10.00	9.00	10.00	9.00	9.50		10.50		910
Ophir	Nev.	8							.66	.64					500
Pharmacist	Colo.	1	.14		.14				.14						7,500
Phoenix	Ariz.	1	.09		.09										400
Plymouth	Cal.	10					.10								300
Portland	Colo.	1			2.95		3.00				3.00				900
Quicksilver, pf.	Cal.	100									7.00				100
Sierra Nevada	Nev.	3									.80				300
Small Hopes	Colo.	20			.75										200
Standard Conn.	Cal.	10	4.15		4.15				4.10						300
Syndicate	Cal.	1							.10						400
Tenn. Copper	Tenn.	25	18.50	17.75	18.50	17.00	18.50	17.00	18.00	17.50	18.00	17.50	18.00	17.00	
Union Copper	N. C.	10	4	3⅞	4	3⅞	4	3⅞	4	3⅞	4¼	4	4¼	4	1,000
Work											.20				2,000

COAL AND INDUSTRIAL STOCKS.

Am. Sm. & Ref.		$100	55⅝	54½	55	54⅜	56	55	56	55½	53¾	56	58		31,210
" " " pf		100	95⅜	94⅜	95	94⅛	95	94⅜	95	94⅜	97	94½	96¼		9,215
Am.S. & W. Con		100	39	38⅜	39	38⅝	41¼	39	43	41¾	44	42⅞	43⅞		34,770
" " " pf'r n		100	97⅜	97⅜	97¾	97¼	100⅞	97⅜	105⅜	101¼	103¼	107	106⅜		14,965
Col. Fuel & I.	Colo.	100	46	45¼	46	45½	48	46⅜	49⅜	47⅜	49½	48	49⅛		20,100
Col. & H. C.& I.	"	100	18⅝	16	18	17⅜	18½	18	18⅞	18	18⅝	18	17⅝		8,750
Federal Steel		100	43⅛	42¾	44	42⅞	45⅞	44	49¼	46⅜	48⅝	48⅜	45⅞		26,850
" " pf		100	90	89½	90¼	89¾	94⅜	91	99	94⅞	100¾	99½	101⅜		42,030
Fleming'n C.&C	W.Va	100	16	9	16	9	16	9	16	9	16	9	15	10	
*Mong. R. Coal.	Pa.	100	11¼	11	11⅜	11¼	11⅜	11¼	11¾						3,730
" " " pf	"	100	72		44	43¾	44¾	44¼	44¾	44¼					495
National Lead		100	15		15		16⅛	15	15⅝	15¼					1,400
" " pf		100	88	86½			86⅛	85¾	85		85⅜	85			1,084
National Salt		109	44⅞	44½	44¾		45	44¼	44½	44¼	46⅛	44	43½		6,560
" " pf		100	78¼		78		79		79				82⅜		2,900
*Pittsburg Coal.	Pa.	100	27¼		27¼	27	27⅜	27¼	27	26⅞					2,240
" " " pf	"	100	89¼	88½	89½	88⅝	89¾	89½	89¾	89⅝					1,257
Republic I. & S.		100	16⅝	16¼	16⅞	16¼	17	16⅜	17⅛	16⅝	17⅛	16⅛	16⅝		9,193
" " pf		100	†65¼	64¾	65⅜	64¼	66	65¾	67	66	67	66½	67		7,350
Sloss-Shef		100									26½	26	27½		700
" " pf		100									†73¾	71	73½		500
Stan. Oil		100	795	790	794	790	800	797	800	797	800	797	800	797	25
Tenn. C. I.&R.R		100	56¾	54⅜	56	55¼	57⅝	53⅛	58	56¾	57⅛	56¼	56¾		28,750
Va. Coal & C.	Va.	100	4½	3½	4½	3½	4½	3½	4½	3½	4½	3½			

* On Pittsburg, Pa. Exchange. † Ex-Dividend. Total sales, 1,152,953.

SAN FRANCISCO, CAL.

NAME OF COMPANY.	Location.	Par value.	Mar. 14.	Mar. 15.	Mar. 16.	Mar. 18.	Mar. 19.	Mar. 20.
Belcher	Nev.	$3.00	.10	.10	.10	.10	.09	.08
Best & Belcher	"	3.00	.17	.17	.17	.17	.16	.16
Caledonia	"	3.00	.65	.71	.71	.70	.70	.74
Challenge Con	"	3.00	.16	.16	.16	.15	.15	.14
Chollar	"	3.00	.14	.16	.15	.15	.15	.15
Confidence	"	3.00	.70	.72	.72	.70	.70	.71
Con. California & Virginia	"	2.50	1.60	1.60	1.60	1.60	1.60	1.65
Crown Point	"	3.00	.10	.11	.10	.11	.09	.09
Gould & Curry	"	3.00	.15	.15	.18	.14	.14	.12
Hale & Norcross	"	3.00	.13	.13	.13	.13	.12	.12
Justice	"	2.00	.03	.03	.03	.01	.02	.03
Mexican	"	3.00	.16	.16	.16	.15	.29	.30
Occidental Con	"	3.00	.03	.03	.03	.04	.04	.04
Ophir	"	3.00	.66	.68	.66	.64	.61	.63
Potosi	"	3.00	.13	.16	.15	.18	.15	.16
Savage	"	2.50	.09	.10	.09	.09	.08	.08
Sierra Nevada	"	3.00	.28	.29	.29	.29	.27	.29
Standard Con	Cal.	10.00	3.90	4.00	4.00	4.00	4.00	4.00
Union Con	Nev.	2.50	.17	.17	.17	.17	.16	.17
Utah Con	"	1.00	.04	.05	.05	.04	.04	.04
Yellow Jacket	"	3.00	.18	.19	.18	.16	.15	.16

CALIFORNIA OIL STOCKS.*

Name of Company.	No. of shares.	Par Val.	Mar. 4. H.	Mar. 4. L.	Mar. 5. H.	Mar. 5. L.	Mar. 6. H.	Mar. 6. L.	Mar. 7. H.	Mar. 7. L.	Mar. 8. H.	Mar. 8. L.	Mar. 9. H.	Mar. 9. L.	Sales
Blue Goose	5,000	$100	4.00	2.00	3.25		3.25	2.50	3.25	2.50	3.00	2.75	2.50		10
Buckhorn	20,000	10.00	3.50	2.00	3.50		3.50						3.50		
Cal. Standard	500,000	1.00	.53	.50	.51	.48	.51	.46	.52	.50	.52	.50	.52	.50	47,800
Caribou	100,000	1.00	.75	.65	.75	.65	.75	.65	.85	.65	.75	.65	.70	.65	850
El Dorado	100,000	1.00	1.50		1.75	1.50	1.80	1.70	1.75	1.50	1.75	1.50	1.80		50
Four	800,000	1.00	.60	.59	.60	.58	.60	.58	.60	.59	.60	.59	.60	.59	6,543
Hanford	2,000	10.00	110	108	105	103	105	102	104	102	100¾	97.00	102	98.00	13
Hanf'd F. & K.	150,000	1.00	.19	.16	.19		.22	.18	.21	.18	.27	.18	.24		500
Home	100,000	1.00	4.25		4.35	4.00	4.25	4.10	4.25	4.00	4.15	4.00	4.15	3.90	985
Homestake	10,000	10.00	10.50	10.00	9.00	8.50	9.00		9.00		9.00		9.00		
Independence	600,000	1.00	.20	.19	.21	.19	.20	.19	.20	.19	.20	.19	.20	.16	12,500
Kern	100,000	1.00	9.88	9.25	9.50	9.38	9.38	9.00	9.00	8.50	8.38	8.50	8.75	8.00	625
Kern River	20,000	5.00			17.50	17.00	17.00	16.50	16.75	16.50	17.00	16.00	16.50		15
McKittrick	60,000	1.00	.35		.40	.33	.48	.42	.50	.35	.45	.34	.45	.42	1,600
Mo'arch of Ari	500,000	1.00	.67	.55	.65	.61	.75	.62	.63	.62	.63	.62	.63	.62	7,050
Monte Cristo	500,000	1.00	2.45	2.30	2.80	2.10	2.20	2.10	2.20	2.15	2.50	2.33	2.50	2.45	5,900
Oil City Petrol	5,000	100.	.28	.26	.27	.26	.26	.24	.28	.25	.27	.25	.30		7,500
Petrol. Center.	500,000	1.00	.16	.15	.17	.15	.17	.15	.17	.16	.17	.15	.16	.15	10,250
Queen Esther	100,000	1.00					.60				.60	.40	.40		
San Joaquin	100,000	1.00	12.38	11.50	11.88	11.50	11.88	11.50	11.75	11.50	11.75	11.38	11.75	11.38	320
Sterling	250,000	1.00	2.95	2.70	2.80	2.40	2.70	2.50	2.60	2.50	2.60	2.50	2.50	2.40	1,125
Sunset (Orig.)	100,000	5.00	.39	.37	.40	.38	.40	.37	.40	.38	1.00	.39	.39		301
Twenty-eight	60,000	10.00	1.80		1.85	1.70	1.80	1.70	1.95	1.50	1.75	1.50	1.65	1.50	200
Yukon	100,000	2.50	.45	.36	.40	.35	.40	.37	.40	.38	.40	.38	.39	.38	

* Producers' Oil Exchange, San Francisco. Total sales, 108,667 shares.

ST. LOUIS, MO.*

NAME.	Location.	Share capital.	Par val.	Mar. 19. Bid.	Mar. 19. Ask.	NAME.	Location	Share capital.	Par val.	Mar. 19. Bid.	Mar. 19. Ask.
Am.-Nettie	Colo.	800,000	$10	$1.02	$1.2	Granby		2000,000	$100	$70.00	
Catherine Lead.	Mo	50,000	10	6.00	6.5	Granite Bimetallic	Mt.	1000,000	10	2.40	$2.50
Central Lead.	Mo	10,000	100	128.00	131.0	Kan. & Tex. Coal.	Mo	25,000	100	50.00	55.00
Columbia Lead.	Mo	50,000	10	14.00	14.5	Lenault Lead	Mo	80,000	10	11.00	12.00
Con. Coal	Ill.	50.0.0	100	14.50	15.0	St. Joe Lead	Mo	800.000	10	14.00	14.75
Doe Run Lead.	Mo	10,000	100	125.00	130.0						

* From our special correspondent.

STOCK QUOTATIONS.

BOSTON, MASS.†

NAME OF COMPANY.	Par val.	Shares issued.	Mar. 14. H.	Mar. 14. L.	Mar. 15. H.	Mar. 15. L.	Mar. 16. H.	Mar. 16. L.	Mar. 18. H.	Mar. 18. L.	Mar. 19. H.	Mar. 19. L.	Mar. 20. H.	Mar. 20. L.	Sales.
Adventure Con..	$25	100,000	13.88	.....	13.75	13.25	13.75	13.00	13.75	13.50	13.50	13.00	13.75	13.25	2,388
Aetna			.75												10
Ahouez	25	80,000	3.00	2.50	.....	.....	3.00	.....	2.75	2.50	2.50	.....	2.75	.....	1,825
Amal. Copper	100	750,000	102	99.63	102⅜	101⅛	101⅞	100⅛	102⅜	101⅛	102	101	102	100⅜	13,013
Am. Z. L. & Sm.	25	60,000	.....	.....	.....	.....	.....	.....	11.00	8.00	11.38	10.00	11.00	.....	2,180
Anaconda	25	1200,000	.....	.....	46.25	.....	.....	.....	.....	.....	.....	.....	.....	.....	10
Arcadian, c	25	150,000	24.13	21.00	24.00	23.00	23.25	22.00	22.50	21.00	23.50	22.75	24.00	22.50	12 647
Arnold	25	60,000	4.50	4.00	.....	.....	.....	.....	4.50	.....	.....	.....	4.88	.....	1,545
Ashbed											.45¾	.....	.50	.43¾	750
Atlantic, c	25	40,000	32.50	32.00	33.00	32.00	.....	.....	33.00	32.50	33.00	.....	32.50	.....	1,444
Baltic, c	25	100,000	39.00	38.50	40.50	40.00	39.38	.....	41.00	39.75	42.00	40.75	44.38	42.75	6 751
Bingham, c. g	10	190,000	22.50	21.75	24.00	22.50	24.50	23.75	25.00	24.50	26.50	25.00	26.50	24.00	28,740
Bonanza Dev	10	300,000	1.25	.....	.....	.....	1.50	1.38	1.50	.....	1.50	1.38	1.38	.....	1,585
Boston	10	100,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7.00	.....	50
Boston & Mont	25	150,000	345	339	350	345	352	347	359	353	357	350	355	353	1,749
British Columbia	5	200,000	20.88	20.75	21.00	.....	.....	.....	20.75	20.50	20.88	20.50	21.00	20.25	3,207
Butte & Bost., c	10	200,000	106	104	106	103⅜	103¾	102¾	104⅛	103	103⅜	102	104	100¼	9,057
Cal. & Hecla, c	25	100,000	355	350	355	350	350	.....	.....	.....	355	.....	.....	.....	64
Centennial, c	25	90,000	36.00	35.00	36.00	35.50	35.50	34.75	35.38	34.88	36.00	34.75	36.25	36.75	16,944
Cent'l-Eureka	25	100,000	28.50	28.25	29.75	28.50	30.00	29.00	30.00	29.75	30.00	.....	32.75	30.00	12,843
Central Oil	25	60,050	12.00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	200
Cochiti, g	10	175,000	9.00	.....	9.00	.....	9.25	8.50	9.00	8.50	9.00	8.75	9.00	8.75	2,015
Copper Range	25	100,000	47.00	44.00	47.50	46.75	47.25	47.00	47.50	46.88	49.00	48.00	50.00	48.88	7,216
Daly-West	20	150,000	35.50	.....	35.50	35.00	.....	.....	36.00	35.50	.....	.....	36.25	.....	600
Dominion Coal	100	150,000	39.75	39.50	39.50	39.25	40.50	39.50	40.50	40.00	40.00	39.50	40.00	39.00	6,172
do, pref	100	30,000	110¾	.....	110¾	.....	.....	.....	110¾	.....	110¾	.....	110¾	.....	201
Elm River	12	100,000	6.00	5.50	.....	.....	5.50	.....	6.00	5.50	6.13	6.00	6.25	5.00	1,245
Franklin, c	25	100,000	23.00	22.50	23.00	22.75	23.25	22.75	22.00	22.50	23.00	22.50	24.00	23.00	2,614
Humboldt	25	40,000	.....	.....	.....	.....	.....	.....	.....	.....	.63	.50	.....	.....	100
I. Royal Con., c	25	100,000	42.75	42.00	43.00	42.75	43.00	42.50	42.00	41.25	43.00	43.00	43.50	42.50	4,883
Mass Con	25	100,000	13.50	13.00	14.75	13.50	15.00	14.50	15.38	14.75	15.38	14.75	15.00	14.50	15,029
Mayflower	25	100,000	3.13	.....	3.25	.....	3.13	.....	3.25	.....	3.00	.....	3.13	3.00	970
Melones	10	197,577	.....	.....	.....	.....	.....	.....	.....	.....	1.25	.....	.....	.....	20
Michigan	25	100,000	7.00	.....	6.50	.....	7.00	.....	6.63	.....	7.00	6.63	7.00	6.13	1,790
Mohawk, c	25	100,000	28.50	27.50	28.75	28.00	29.00	28.00	29.00	28.00	30.50	29.00	31.00	29.75	7,889
Mont. C. & C	25	200,000	.....	.....	6.00	.....	.....	.....	5.50	.....	6.00	.....	.....	.....	350
N.E. Gas & Coke	100	160,000	12.75	12.25	12.88	12.63	13.25	13.00	13.38	12.00	13.13	13.00	12.75	12.00	2,485
N. A. G. Dreg	10	100,000	.50	.....	.50	.....	.....	.....	.50	.....	.....	.....	.50	.....	190
Old Colony	25	100,000	4.38	4.00	.....	.....	.....	.....	.....	.....	4.13	.....	.....	.....	484
Old Dominion, c	25	150,000	37.50	36.00	38.00	37.00	.....	.....	36.50	35.50	37.38	36.00	37.25	35.75	6,024
Osceola, c	25	93,000	88.00	86.00	89.00	87.50	87.75	87.50	89.00	87.00	87.75	87.00	87.00	86.00	2,471
Parrot, s c	10	229,850	53.50	51.75	53.50	53.00	54.00	52.00	53.38	52.25	53.50	52.50	53.00	52.00	2,281
Phoenix Con	25	100,000	4.75	.....	4.75	.....	.....	.....	4.63	.....	4.75	4.50	.....	.....	197
Quincy, c	25	100,000	175¼	175	175¼	.....	.....	.....	175	.....	.....	.....	175	.....	97
Rhode Island	25	100,000	7.00	.....	.....	.....	.....	.....	6.88	6.00	6.75	.....	7.00	6.25	1,442
Santa Fe, g. c	10	250,000	7.75	7.50	7.50	.....	7.25	.....	7.25	.....	.....	.....	9.00	7.50	8,068
Santa Ysabel	5	130,000	.....	.....	.....	.....	2.00	.....	1.25	.....	.....	.....	.....	.....	101
Tamarack, c	25	60,000	389	388	349	345	345	340	342½	.....	342½	338	340	.....	93
Tecumseh	25	80,000	2.00	1.75	2.00	.....	.....	.....	2.25	.....	.....	.....	2.00	1.75	38,896
Trimountain	25	100,000	28.25	27.25	31.63	30.50	31.50	30.50	35.50	31.00	40.00	34.50	39.50	34.50	62,146
Trinity	25	160,000	32.50	31.38	32.00	30.13	31.75	31.75	32.00	30.88	31.50	31.00	32.50	31.00	27,595
Union C. L	25	250,000	.....	.....	4.50	.....	4.50	.....	4.00	3.50	4.13	.....	.....	.....	500
UnitedStatesMg	25	250,000	15.50	14.25	16.25	15.00	16.13	15.75	16.38	15.75	18.00	16.50	19.00	17.75	45,535
U. S. Oil	25	100,000	13.00	.....	.....	.....	13.00	12.50	14.50	13.50	16.00	14.50	17.00	15.38	6,190
Utah Con., g. c	5	900,000	35.25	34.50	35.50	34.75	34.75	34.50	35.25	34.50	34.75	33.63	34.25	31.50	5,510
Victoria	25	100,000	4.63	4.50	4.75	.....	4.50	.....	4.50	.....	4.50	.....	4.50	.....	1,105
Winona, c	25	100,000	6.50	.....	6.50	6.25	6.25	6.00	6.25	6.00	7.00	6.00	6.50	6.00	6,198
Wolverine c	25	60,000	53.88	53.00	*53.75	53.50	52.00	50.50	51.50	51.00	51.50	51.00	51.50	50.25	2,915
Wyandot	25	100,000	.....	.....	2 50	.....	2.50	.....	2.50	2.25	.....	.....	2.50	.....	235

†Official quotations Boston Stock Exchange. Total sales, 836,193 shares. * Ex-Dividend.

PHILADELPHIA, PA.§

NAME OF COMPANY.	L'cation.	Par Val.	Mar. 14. H.	Mar. 14. L.	Mar. 15. H.	Mar. 15. L.	Mar. 16. H.	Mar. 16. L.	Mar. 18. H.	Mar. 18. L.	Mar. 19. H.	Mar. 19. L.	Mar. 20. H.	Mar. 20. L.	Sales
Am. Alkali	.....	$50	.....	.....	.....	.....	.....	.....	1.88	.....	2.00	.....	2.25	2.00	617
Am. Cement	.....	10	7.90	.....	7.00	.....	.....	.....	.....	.....	7.13	.....	7.13	.....	797
Bethlehem Iron	Pa.	50	.....	.....	.....	.....	.....	.....	62.00	.....	.....	.....	62.38	.....	12
Bethlehem Steel	"	50	.....	.....	.....	.....	.....	.....	18.63	.....	.....	.....	.....	.....	200
Cambria Iron	"	50	46.75	.....	47.00	.....	.....	.....	†4550	.....	45.25	.....	45.75	.....	44
Cambria Steel	"	50	17.50	.....	17.50	.....	17.50	.....	17.50	.....	17.75	17.50	17.88	17.63	5,320
Susq. I. & S	"	10	2.25	2.00	2.25	.....	.....	.....	.....	.....	2.25	.....	2.25	.....	1,155
United Gas I	"	50	124½	124¼	124⅞	124¼	124¾	124½	125	125¼	125	.....	125¼	123	3,249

Total shares sold, 11,594. § Reported by Townsend, Whelen & Co., 309 Walnut St., Philadelphia. * Ex-Dividend.

SALT LAKE CITY, UTAH. Mar. 16.

STOCKS.	Shares.	Par val.	Bid.	Asked.	STOCKS.	Shares.	Par val.	Bid.	Asked.
Ajax	300,000	$10	$1.00½	$1.03	Horn Silver	400,000	$25	$1.00	.....
Albion	.....	.....	.30	.65	Joe Bowers	400,000	1	.01⅝	$0.01⅞
Alice	400,000	25	.35	.....	Lower Mammoth	150,000	1	3.99	4.00
Anchor	.....	.....	2.30	2.50	Mammoth	400,000	5	2.30	2.37½
Bullion-Beck & Ch	100,000	10	3.00	4.25	May Day	400,000	¼	.51	.52½
Centennial Eureka	200,000	25	28.50	30.00	Northern Light	400,000	5	.10¼	.10¾
Cons. Mercur	1,000,000	5	3.12	3.13	Ontario	150,000	100	9.25	10.50
Dalton	500,000	5	.....	.....	Rocco-H'st'k-Nev	.....	.....	1.02	.....
Daisy	500,000	3	.10	.....	Sacramento	1,000,000	5	.41⅝	.42¾
Dalton & Lark	2,500,000	1	.....	.07½	Showers Cons	400,000	5	.....	.10
Daly	150,000	20	1.82½	2.00	Silver King	150,000	20	.....	.....
Daly-West	150,000	20	35.00	35.10	Silver Shield	.....	.....	.08½	.08½
Dexter	200,000	5	1.07½	1.14	Star Consolidated	500,000	1	.65	.67
Eagle & Blue Bell	250,000	1	.78	.80	Sunbeam	250,000	1	.35	.42
Four Aces	250,000	1	.....	.01	Swansea	100,000	5	3.37½	3.94
Galena	100,000	10	.06¾	.09½	South Swansea	150,000	1	1.27	1.29
Golden Eagle	250,000	1	.....	.02½	Utah	100,000	1	.70	1.00
Grand Central	250,000	1	6.93	6.99	Valeo	200,000	10	.27½	.30
Homestake	400,000	1	.01	.....	Yankee Consol'd	250,000	0.10	.16¾	.17

TORONTO, ONT.

NAME OF COMPANY.	Par val.	Mar. 9. B.	Mar. 9. A.	Mar. 11. B.	Mar. 11. A.	Mar. 12. B.	Mar. 12. A.	Mar. 13. B.	Mar. 13. A.	Mar. 14. B.	Mar. 14. A.	Mar. 15. B.	Mar. 15. A.	Sales.
Ontario:														
Golden Star	1	.02¾	.03½	.02½	.03	.....	.....	.03¾	.03⅝	.03⅜	.03⅛	.03⅛	.03¼	5,000
Ham Reef	1	.....	.....	.01⅝	.....	.....	.....	.01½	.....	.....	.....	.....	.....	1,500
Olive	1													
British Col.:														
Cariboo M'k	1	.84¼	.86	.83	.86	.....	.....	.81	.83	.81½	.83	.80	.86	1,200
Crow's N. C.	25	62.00	70.00	67.00	75.00	.....	.....	70.00	80.00	70.00	80.00	73.00	80.00	
Deer Trail	1	.02½	.03	.02¾	.02½	.....	.....	.....	.....	.02½	.03	.02½	.03	3,000
Eve Star	1	.05	.08	.05	.08	.....	.....	.05	.08	.05	.08	.05	.08	
Fairview	1	.02¾	.05	.02¾	.03½	.....	.....	.02¾	.03½	.02¾	.03½	.02¾	.03½	12,532
Iron Mask	1	.35	.40	.30	.38	.....	.....	.30	.35	.32	.38	.32	.33	.....
Jim Blaine	1													
Knob Hill	1	.50	.53	.50	.62	.....	.....	.52	.60	.54	.62	.62	.65	.....
Mont Cristo	1													
Mont & Lon	0.24													
Morrison	1	.06½	.08	.06	.08	.....	.....	.06½	.08	.06½	.08	.06½	.08	.....
Mount. Lion	1													
North Star	1	.79	.85	.75	.84	.....	.....	.78	.85	.75	.84	.80	.88	.....
Payne	1	.41	.44	.42	.45	.....	.....	.44¼	.45¼	.44½	.47	.44½	.48½	13,500
Princess M	1													
Rambler	1	.26	.28	.27	.29½	.....	.....	.26½	.29	.26	.29	.25	.30	.....
Republic	1	.38	.41	.35	.40	.....	.....	.33	.38	.32	.35	.32½	.37½	.....
Van Anda	1													
Victory Tri.	1													
Virtue	1	.24	.26	.24	.26	.....	.....	.24	.22	.22	.27	.25	.27	2,000
War Eagle	1	.25	.40	.32	.40	.....	.....	.38½	.42	.38	.42	.40	.42	.....
Waterloo	0.10	.02	.03	.02	.02½	.....	.....	.02¼	.03	.02	.03	.02	.03	6,000
White Bear	1	.03¾	.04½	.03½	.04	.....	.....	.03½	.03⅝	.03¾	.03¾	.03½	.03⅝	30,500
Winnipeg	1	.06	.07½	.06	.07½	.....	.....	.05½	.07	.05	.07	.06	.07	.....
Develop Co.:														
B.C.G. Field	1	.03	.03¼	.03	.03¼	.....	.....	.02½	.03¼	.02½	.03½	.02¾	.03¼	7,000
Can. G. F. S.	0.10	.06½	.07½	.07	.07¼	.....	.....	.06¾	.07½	.06½	.07¼	.06¾	.07¼	13 000

Total shares sold, 97,280.

COLORADO SPRINGS, COLO.§

NAME OF COMPANY.	Par val.	Mar. 11. B.	Mar. 11. A.	Mar. 12. B.	Mar. 12. A.	Mar. 13. B.	Mar. 13. A.	Mar. 14. B.	Mar. 14. A.	Mar. 15. B.	Mar. 15. A.	Mar. 16. B.	Mar. 16. A.	Sales.
Acacia	$1	.17	.17¼	.16¾	.16¾	.16¾	.17	.17	.17¼	.16⅞	.17	.16¾	.17	22,500
Alamo	1	.13½	.14	.13⅝	.14	.13⅝	.13⅞	.13⅞	.13½	.13	.13¼	.13	.14	3,000
Am. Con	1	.05¾	.06	.05¾	.05¾	.05⅝	.05¾	.05⅞	.05⅞	.02¾	.02⅞	.05	.05¼	15,000
Anaconda	1	.45	.46¼	.45	.45⅞	.44½	.45¼	.43	.45	.44	.45	.43	.45	9,000
Anchor	1	.03	.03½	.02¼	.03	.02¾	.02⅞	.02¼	.02½	.02¼	.02½	.....	.....	9,000
Anchoria L	1	.60	.....	.60	.65	.50	.....	.55	.....	.55	.....	.55	.....	500
Antelope	1	.....	.03½	.....	.02	.01	.02	.02	.02¼	.02	.02¼	.02	.02½	6,000
Aola	1	.04	.04⅜	.04	.05	.04½	.04½	.04⅜	.04⅝	.04¼	.04⅝	.04¼	.04½	4,000
Arcadian	1		.08						.03		.03		.03	
Arg'ntum J	1	.27	.30	.27	.30	.26	.29	.25	.....	.26¾	.....	.26¾	.27	2,000
Banner	1	.03½	.03⅝	.03	.03¼	.03¼	.03⅜	.03¼	.03½	.03¼	.03⅜	.03¼	.03⅜	11,000
Battle Mt.C	1	.25⅞	.26	.25⅞	.26¼	.25⅜	.25⅞	.26¼	.26⅜	.27	.27⅜	.27⅛	.27⅜	33,100
Ben Hur	1	.10	.16⅝	.10	.10¼	.09¾	.10	.09¾	.10	.....	.10	.09⅝	.09¾	14,500
Black Bell	1	.11¼	.12½	.11	.11¾	.11	.11⅞	.11	.11⅞	.11	.11⅛	.10⅝	.11	19,000
Blue Bell	1	.19	.19½	.18⅞	.19	.18¾	.19¼	.18⅝	.19	.19	.19¼	.18⅝	.19⅛	22,200
Bob Lee	1	.05¾	.05½	.05¼	.05½	.05	.05¼	.05¼	.05¼	.05¼	.05¾	.05	.05½	4,000
Buckhorn	1	.04⅜	.04⅝	.05¼	.05½	.04¾	.04⅞	.04¼	.04½	.04⅜	.04½	.04¼	.04¾	11,000
Cadillac	1	.02	.02¼	.02¼	.02¾	.02¼	.02¾	.02¼	.02¾	.02¼	.02¾	.02¼	.02½	5,000
Central C'n	1	.05½	.06	.05⅝	.06¼	.05	.06	.05¾	.....	.07¼	.07⅜	.07	.07¼	29,000
Champion	1	.05½	.05⅝	.05¼	.06	.05	.06	.05	.06	.05¾	.05⅞	.05¼	.06	10,000
Chicolo	1	.02¾	.03⅛	.02⅝	.02⅞	.02⅝	2⅜	.02½	.02¾	.02⅜	.02¼	.02¾	.03	1,000
C. K. & N	1	.02¾	.02⅞	.02¾	.03	.02¾	.03	.02¾	.03	.02¾	.02¾	.02¾	.02⅞	10,000
C. C. Col'bia	1	.15¾	.16¼	.15¼	.15¾	.15½	.15⅝	.15½	.15⅝	.15¼	.15¼	.15	.15⅛	59,000
C. C. G. Ext	1	.12½	.14	.12	.13	.12	.14	.12	.....	.12	.13	.12	.....	1,000
C. C. & Man	1	.08½	.08¾	.08¼	.08¾	.08¼	.08½	.08⅜	.08⅝	.08¼	.08⅝	.08¼	.08⅝	39,000
Copper Mt.	1	.03	.03⅜	.03	.03⅜	.03	.03⅜	.03	.03⅜	.03	.03⅜	.03	.03⅜	3 000
Creede& CC	1	.09	.14	.08	.....	.....	.....	.....	.....	.....	.....	.....	.....	
C. C. Con	1	.11¾	.11⅝	.11¾	.11⅝	.11½	.11¾	.11¾	.11⅝	.11	.11⅛	.11¼	.11⅜	9,000
Dante	1	.....	.08	.07⅞	.08⅝	.07¾	.08	.07⅝	.07⅞	.07⅞	.08	.07⅝	.08	27,000
Des Moines	1	.04½	.....	.04½	.05	.04½	.....	.04½	.....	.04½	.....	.04½	.....	
Eclipse	1	.08¾	.08⅝	.08⅜	.08⅝	.08⅜	.08⅝	.08⅜	.08⅝	.08⅜	.08⅝	.08⅜	.08⅝	39,000
Elkton Con	1	1.67	1.67¼	1.66¾	1.68	1.66	1.67	1.67	1.68	1.67	1.68	1.68¼	1.69½	17,650
El Paso G	1	.44	.45	.44	.45	.43½	.45	.42½	.44	.44	.45	.43⅝	.....	67,545
Enterprise	1	.....	.16	.14	.15½	.....	.....	.....	.15¾	.....	.....	.14½	.15	2,000
F. Rawlings	1			.19	.21	.....	.25	.19	.....	.....	.....	.20	.....	
Findley	1	.14¼	.14¾	.13¾	.13¾	.13	.13½	.13	.13⅝	.12½	.13½	.13	.13⅝	55,200
Gart. Conn.	1								.08¼			.07½	.07¾	2,500
Golden Fl	1	.28	.30	.30	.38	.30	.....	.....	.30	.....	.....	.30	.30	2,500
Gold Hill	1	.02½	.02¾	.02½	.02½	.....	.02¼	.....	.02¼	.02¼	.02⅜	.02¼	.02⅜	8,000
Gold Sov'n	1	.07⅛	.07⅜	.07¼	.07¼	.07½	.07¾	.07¾	.08	.07¾	.07⅞	.07¾	.07¾	34,500
Hayden	1	.01¾	.01⅞	.....	.....	.....	.02	.....	.02	.01⅝	.02	.01⅝	.01¾	4.000
Humboldt	1	.03	.03¼	.03	.03½	.03	.03½	.02½	.03	.....	.03	.....	.03	3,000
Ida May	1	.....	.23	.21½	.22½	.20½	.22	.20½	.21¼	.20⅝	.21½	.20¾	.21½	2.000
Ing. Con	⅛	.19½	.20	.19	.19¾	.19	.19½	.18½	.19½	.18¾	.19½	.18¾	.19	23,000
Ironclad	1	.06	.06¾	.06	.06½	.06	.06¾	.06	.06¾	.06	.06¾	.06	.06¾	6,000
Isabella	1	.73	.....	.73½	.73¾	.74	.75	.74	.75	.74½	.75	.73	.73½	19,400
Jack Pot	1	.53	.56	.53½	.55½	.53	.55	.53½	.54½	.53½	.58	.54	.55	6,500
Josephine	1	.....	.01¾	.01½	.....	.....	.....	.01½	.....	.....	.....	.....	.....	2,000
Key West	1	.....	.02½	.....	.02¾	.....	.02¾	.....	.02¾	.....	.02¾	.....	.02¾	3,000
Lexington	1	.09½	.....	.09¾	.10	.09½	.09¾	.09½	.10	.09½	.09¾	.09½	.09¾	2,000
Magnet R	1	.02¾	.03	.02¾	.03	.02¾	.03	.02¾	.03	.02¾	.03	.02¾	.03	11,000
Margaret	1	.02½	.02¾	.....	.02¾	.04¼	.04½	.04¼	.02½	.02¼	.02½	.02¼	.02¾	1,000
Margery	1	.02¾	.03½	.02¼	.03¾	.02¾	.03	.02¾	.03	.02¼	.02¾	.02¼	.03	1,000
Matoa	1	.16	.....	.16	.....	.16	.....	.16	.....	.16	.....	.16	.....	1,000
Midway	1	.04½	.04¾	.04	.04½	.04	.04¾	.04	.04¾	.04	.04¾	.04	.04¾	7,000
M. J. T	1	.03	.03¼	.03	.03¼	.03	.03⅜	.03	.03⅜	.03¼	.03¾	.03¼	.03¾	48,000
Mobile	1	.....	.03⅜	.03	.03⅜	.03	.03½	.....	.....	.....	.03¾	.....	.03⅜	
Moll.Dwyer	1	.05¼	.05⅞	.05¼	.05⅜	.05¼	.05⅞	.05⅞	.05⅞	.05¼	.05¼	.05⅛	.05¼	43,000
Mollie G Gib.	1	.29	.30	.28	.29½	.24	.29	.25	.29	.25	.....	.25	.30	6,200
Monarch	1	.06¾	.07	.06	.07	.06½	.07	.06¼	.07	.06¼	.07	.06¼	.06¾	2,000
Montreal	1	.04½	.05	.04	.05	.04¼	.05	.04¼	.05	.04½	.04¾	.04	.04½	1,000
Moon-A'c'r	1	.30	.31	.30½	.32	.30	.32	.30	.....	.30	.31	.30	.31	13,800
Morning S	1	.....	.03¾	.03½	.03¾	.03½	.03¾	.03½	.03½	.03¼	.03½	.03¼	.03¾	9,000
Mtn.Beauty	1	.06½	.07	.06¾	.07	.06¾	.07	.06½	.07	.06¾	.07	.06¾	.....	6,000
Mt. Rosa	1	.40	.43	.40								.40		
National	1	.08	.08½	.08¼	.09	.08½	.08¾	.08	.08½	.08½	.08¾	.07½	.08	17,000
Nellie V	1	.05¾	.06⅞	.05½		.05¾	.06¼	.05¾	.06	.05¾	.06	.05¾	.06	4,250
New Haven	1	.....	.09¾	.09½	.09¾	.09½	.09¾	.09¾	.09¾	.09	.09¾	.09¾	.09½	34,000
Olive B'nch	1	.03¾	.04¾	.....	.03¾	.03⅝	.03¾	.03½	.03⅝	.03⅝	.03⅝	.03⅝	.04	2,000
Ophir	1	.30	.....	.29	.33	.30	.....	.....	.....	.....	.....	.30	.35	
Oroie	1	.03	.03¼	.03¼	.03¼	.03	.03¼	.03¼	.03¼	.03¼	.03¼	.03¼	.....	5,000
Orphan	1	.15¾	.16	.15½	.16	.15½	.17	.15½	.17	.15¾	.17	.15¾	.17	15,000
Pelican	1	.01¾	.02	.01⅞	.01¾	.02¼	.02	.02	.02¼	.02¼	.02¼	.02¼	.02¼	4,000
Pharmacist	1	.14¾	.15	.13¾	.14	.13¾	.13⅝	.13	.13¼	.12½	.12⅝	.12½	.12¾	187,000
Pilgrim	1	.09¾	.10	.08	.10	.08	.10	.08	.10	.09	.09¾	.09	.09¾	
Pinnacle	1	.....	.19	.18½	.17	.15	.15½	.15	.16	.15⅝	.15½	.15	.15½	12,000
Portland	1	2.87½	2.90	2.85	2.92	2.89	.....	2.91	.....	2.99	.....	2.95	.....	9,200
Prince Alb.	1													
Princess	1	.04½	.05⅛	.04⅝	.....	.04¾	.05¼	.....	.04¾	.05¼	.04¾	.05¼	.04¾	6,000
Progress	1	.06⅞	.07	.06¾	.07	.06⅞	.07	.06⅞	.07	.06⅞	.07	.06⅞	.07	24,000
Pythias	1	.04½	.05	.04½		.04½	.05	.04½	.04	.05	.04	.05	.04	2,000
Republic	1	.07½	.07¾	.07½	.07¾	.07¼	.07½	.07⅛	.07¼	.....	.08	.....	.07½	9,000
Rob't Burns	1	.04½	.04¾

STOCK QUOTATIONS.

LONDON. March 8.

NAME OF COMPANY.	Country.	Authorized capital.	Par value.	Last dividend. Amt.	Last dividend. Date.	Quotations. Buyers	Quotations. Sellers.
American:			£ s. d.	s.d.		£ s. d.	£ s. d.
Alaska Goldfields, g	Alaska	£800,000	1 0 0	2 3	Jan., 1901	13 9	16 3
Alaska-Treadwell, g	"	1,000,000	5 0 0	1 6	" "	4 17 6	5 2 6
Anaconda, c., s	Montana	6,000,000	5 0 0	8 2	Oct., 1900	9 7 6	9 12 6
British Am. Corp	British Col'mbia	1,500,000	1 0 0	2 0	Mar., 1900	3 9	4 2
Copiapo, c	Chile	200,000	2 0 0	3 4	Dec., 1900	3 6 3	3 8 9
De Lamar, g., s	Idaho	400,000	1 0 0	0 6	May, 1900	2 6	3 6
El Oro	Mexico	1 000,000	1 0 0	1 0	Feb., 1901	1 2 6	1 5 0
Frontino & Bolivia, g	Colombia	140,000	1 0 0	1 6	Oct., 1899	2 3 9	2 6 3
Grand Central, g., s	Mexico	800,000	1 0 0	2 0	Jan., 1900	5 0	10 0
Hall Mg. & Sm., c., s	British Col.	325,000	1 0 0			4 3	4 9
Le Roi, g	" "	1,000,000	5 0 0	5 0	Nov., 1899	7 0 0	7 5 0
Le Roi No. 2, g	" "	130,000	5 0 0			4 2 6	4 7 6
Lillie, g	Colorado	250,000	1 0 0	3½	Apr., 1900	2 6	7 6
Montana, g., s	Montana	660,000	1 0 0	6	Apr., 1899	2 3	2 9
Mountain Copper	California	1,250,000	5 0 0	9 0	Oct., 1900	4 17 6	5 2 6
Stratton's Independence	Colorado	1,100,000	1 0 0	6	Jan., 1901	1 12 6	1 15 0
St. John del Rey, g	Brazil	600,000	1 0 0	1 0	Dec., 1900	1 1 3	1 3 9
Utah Con.,g.(Highl'nd Boy)	Utah	800,000	1 0 0	rts.	Mar., 1898	7 2 6	7 7 6
Ymir, g	British Col'mbia	200,000	1 0 0	1 0	Jan., 1901	1 8 9	1 11 3
European:							
Linares, l	Spain	45,000	3 0 0	14 0	Oct., 1900	8 0 0	9 0 0
Mason & Barry, c., sul	Portugal	430,000	2 0 0	£1	" "	3 12 6	3 17 6
Rio Tinto, c	Spain	1,625,000	5 0 0	£2	" "	60 12 6	60 17 6
" " pref	" "	1,625,000	5 0 0	2 6	" "	6 0 0	6 2 6
Tharsis, c		1,250,000	2 0 0	15 0	Apr., 1900	8 15 0	9 0 0
Australian:							
Assoc. Gold Mines	W. Australia	500,000	1 0 0	1 6	Jan., 1900	2 8 9	2 11 3
Broken Hill Prop., s	N. S. Wales	384,000	8 0	1 6	Nov., 1900	2 6 6	2 7 6
Great Boulder Prop	W. Australia	175,000	2 0	6	Feb., 1901	1 13 9	1 14 3
Hannan's Brownhill, g	"	140,000	1 0 0	7 6	Oct., 1900	4 2 6	4 5 0
Ivanhoe Gold Corp	"	1,000,000	5 0 0	5 0	Nov., 1900	8 2 6	8 7 6
Kalgurlie, g	"	120,000	1 0 0	rts.	Oct., 1899	3 12 6	3 17 6
Lake View Consols, g	"	350,000	1 0 0	5 0	Aug., 1900	7 11 3	7 13 9
Mt. Lyell M. & R., l., c	Tasmania	900,000	3 0 0	2 0	Apr., 1901	4 12 6	4 17 6
Mt. Morgan, g	Queensland	1,000,000	1 0 0	7	Mar., 1901	4 16 3	4 17 6
Waihi g	New Zealand	330,000	1 0 0	2 6	Mar., 1901	9 10 0	9 15 0
Indian:							
Champion Reef, g	Colar Fields	220,000	10 0	5 0	Jan., 1901	5 16 3	5 18 9
Mysore Gold, g	"	250,000	10 0	rts.	Dec., 1900	6 1 3	6 3 9
Nundyroog, g	"	242,000	1 0 0	2 9	Mar., 1901	3 16 3	3 18 9
Ooregum, g	"	145,000	1 0 0	2 6	Dec., 1900	4 2 6	4 7 6
" pref. g	"	120,000	1 0 0	2 6	" "	5 0 0	5 5 0
African:							
British S. Africa, chartered	So. Africa	5,000,000	1 0 0	rts.	May, 1899	3 8 9	3 11 3
Cape Copper, c	"	600,000	1 0 0	5 0	Jan., 1901	5 5 0	5 10 0
" pref	"	150,000	2 0 0	5 0	" "	4 10 0	5 0 0
City & Suburban (New), g	Transvaal	1,380,000	4 0 0	8 0	Aug., 1899	5 15 0	6 0 0
Con. Deep Level, g	"	200,000	1 0 0	x all	June, 1898	1 2 6	1 7 6
Crown Reef, g	"	120,000	1 0 0	18 0	Nov., 1899	15 0 0	15 11 0
De Beers Con., d	Cape Colony	3,950,000	5 0 0	£1	Jan., 1901	31 17 6	32 2 6
Ferreira, g	Transvaal	90,000	1 0 0	30 0	Aug., 1899	20 15 0	21 5 0
Geldenhuis Deep, g	"	330,000	1 0 0	8 0	" "	10 2 6	10 7 6
Geldenhuis Est., g	"	200,000	1 0 0	10 0	" "	6 15 0	6 17 6
Henry Nourse, g	"	125,000	1 0 0	10 0	Apr., 1900	8 15 0	9 0 0
Jagersfontein, d	Orange Fr. St.	1,000,000	5 0 0	6 0	Sept., 1900	17 10 0	18 10 0
Johannesburg Con. Invet.	So. Africa	2,750,000	1 0 0	2 0	Aug., 1899	2 3 9	2 5 0
Jubilee, g	Transvaal	50,000	1 0 0	5 0	Sept., 1899	6 0 0	6 10 0
Langlaagte Estate, g	"	470,000	1 0 0	3 0	Aug., 1899	3 8 9	3 11 3
May Con., g	"	290,000	1 0 0	6 0	July, 1899	4 8 9	4 11 3
Meyer & Charlton, g	"	100,000	1 0 0	8 0	June, 1899	5 7 6	5 12 6
Namaqua, c	Cape Colony	300,000	2 0 0	4 0	Dec., 1900	4 17 6	5 2 6
Primrose (New), g	Transvaal	900,000	1 0 0	6 0	Aug., 1899	4 8 9	4 11 3
Rand Mines, g	So. Africa	490,000	1 0 0	15 0	" "	41 17 6	42 0 0
Robinson, g	Transvaal	2,750,000	5 0 0	8 0		9 10 0	9 15 0
Sheba, g	"	1,100,000	1 0 0	0 6	July, 1898	1 2 6	1 3 9
Sim. & Jack Prop., g	"	5,000,000	5 0 0	4 0	July, 1899	6 7 6	6 10 0
Wolhuter, g	"	850,000	4 0 0	2 0	Feb., 1899	4 10 0	4 15 0

DENVER, COLO:

NAME OF COMPANY.	Par val.	Mar. 11. B.	Mar. 11. A.	Mar. 12. B.	Mar. 12. A.	Mar. 13. B.	Mar. 13. A.	Mar. 14. B.	Mar. 14. A.	Mar. 15. B.	Mar. 15. A.	Mar. 16. B.	Mar. 16. A.	Sales.
Acacia	1											.16¾	.17	1,000
Alamo	5										.14			
Anaconda	1			.44¾	.45⅛	.44	.44⅞				.45½			
Arg. J	1							.26	.25⅞			.23¾		100
Dictator	1			.02¾		.02¾	.02⅝	.02⅛	.02¼			.02⅝		2,000
Elkton	1							1.66¼	1.67	1.66¼	1.68	1.68¼		500
Ironclad	1			.06	.06¼	.06⅝	.06¾					.06	.06¼	7,000
Isabella	1			.74	.74¾							.73¾	.74¼	1,000
Josephine	1													
Magnet R.	1			.02¾	.03									18,000
National	1			.03¾		.03¾	.03¾	.08	.03¾					2,000
New Haven	1						.09¼			.09	.09¼			1,000
Reno	1			.03¾				.03¾	.03¾	.03¾	.04	.03¾		1,500
Republic	1													1,000
Work	1				.19¼			.15¾	.19	.13¾	.19¼			1,000

‡ Official Quotations Denver Stock Exchange. Total sales, 81,100 shares.

SPOKANE, WASH. Week Mar. 14.

NAME OF COMPANY.	Par val.	B.	A.	Sales.	NAME OF COMPANY.	Par val.	B.	A.	Sales.
Crystal		.03¼	.04½	5,000	Mountain Lion	$1	.19½	.24	
Deer Trail Con	$1	.02⅝	.02¾		Princess Maud	0.10	.01½	.02	2,000
Evening Star	1	.03	.04¼		Quilp	1	.27	.33	
Gold Ledge		.01⅞	.02⅛	2,500	Rambler Cariboo	0.25	.25¼	.29¾	1,000
Jim Blaine	1				Reservation		.02⅞	.03¾	1,000
Lone Pine-Surp. Con	1	.07¼	.07¾	1,000	Sullivan		.09	.11	45,000
Morning Glory	0.10	.06¾	.07⅛	9,000	Tom Thumb		.10	.12¾	5,000

PARIS. Mar. 7.

NAME OF COMPANY.	Country.	Product.	Capital Stock.	Par value.	Latest divs.	Prices. Opening.	Prices. Closing.
			Francs.	Fr.	Fr.	Fr.	Fr.
Acieries de Creusot	France	Steel mfrs	27,000,000	2,000	85.00	1,820.00	1,818.00
" " Firminy	"	" "	5,000,000	500	175.00	3,189.00	3,100.00
" " Fives-Lille	"	" "	12,000,000	500		468.00	465.00
" " Huta-Bank	Russia	Iron & steel		500		3,140.00	3,550.00
" " la Marine	France	Steel mfrs	20,000,000	500	60.00	1,545.00	1,510.00
Anzin	"	Coal			260.00	5,555.00	5,561.00
Boleo	Lower Cal.	Copper		500	176.00	2,720.00	2,739.00
Briansk	Russia	Coal & iron		500		580.00	613.75
Champ d'Or	S. Africa	Gold	3,375,000	25	3.75	84.00	87.00
Courrieres	France	Coal	600,000	800	90.00	2,345.00	2,310.00
Dombrowa	Russia			500	75.00	998.00	1,010.00
Dynamite Centrale	France	Explosives		500	22.50	440.00	440.00
Escombrera-Bleyberg	Spain	Lead		500	70.00	1,050.00	1,090.00
Fraser River	Brit. Col'mb.	Gold	250,000	25		7.00	7.00
Huanchaca	Bolivia	Silver	40,000,000	125	5.00	189.00	150.50
Laurium	Greece	Zinc & lead	16,800,000	500	80.00	487.50	487.50
Malfidano	Italy	Zinc	12,500,000	500	50.00	965.00	850.00
Metaux, Cie. Fran. de	France	Metal d'lers.	25,000,000	500	10.00	475.00	480.00
Mokta-el-Hadid	Algeria	Iron	18,312,500	500	85.00	900.00	910.00
Napthe Baku	Russia	Petroleum				594.00	599.50
Napthe Nobel	"	"				510.00	527.00
" " parts	"	"				10,225.00	10,525.00
Nickel	N. Caled'nia	Nickel	10,000,000	250	17.50	480.00	490.00
Penarroya	Spain	Coal, etc		500	100.00	2,480.00	2,480.00
Rebecca	Colo'do, U.S.	Gold	5,000,000	25		2.25	2.25
Salines de l'Est	France	Salt		500	5.00	220.00	230.00
Salines du Midi	"	"		500	25.00	850.00	855.00
Vielle Montagne	Belgium	Zinc	9,000,000	80	36.00	635.00	646.25

DIVIDENDS.

COAL, IRON, OIL, AND INDUSTRIAL COMPANIES.

Number.	Name and Location of Company.		Authorized Capital Stock.	Shares. Issued.	Shares. Par Val	Dividends. Paid, 1901.	Dividends. Total to Date.	Dividends. Latest. Date.	Dividends. Latest. Amt.
1	Alabama Coal & Iron, pf	Ala...	$2,500,000	25,000	$100	$43,750	$262,500	Mar.. 1901	1.75
2	Altoona Coal & Coke	Pa....	2,500,000	250 000	10	75,000	75,000	Jan.. 1901	.30
3	Am. Agricul. Chem., pf.	U. S..	20,000,000	170,449	100	510,000	2,040,000	Mar.. 1901	3.00
4	American Cement	Pa....	2,100,000	200,000	10	80,000	220,000	Jan.. 1901	.40
5	American Coal	Md..	1,500,000	60,000	25	75,000	1,057,500	Mar.. 1901	1.25
6	Am. Fuel Oil	Cal...	100,000	100,000	1	1,000	15,000	Jan.. 1901	.01
7	Am. Iron & Steel, com	Pa....	17,000,000	34,000	50	8,500	42,500	Jan.. 1901	.25
8	Am. Iron & Steel, pf	Pa....	3,000,000	60,000	50	37,500	237,480	Jan.. 1901	.62½
9	Am. Sheet Steel, pf	U. S..	26,000,000	245,000	100	428,750	428,750	Jan.. 1901	1.75
10	Am. Steel Hoop, pf	U. S..	14,000,000	140,000	100	245,000	1,470,000	Jan.. 1901	1.75
11	Am. Steel & Wire, com	U. S..	50,000,000	500,000	100	1,500,000	4,125,000	Apr.. 1901	1.25
12	Am. Steel & Wire, pf	U. S..	40,000,000	400,000	100	1,400,000	7,000,000	Apr.. 1901	1.75
13	Arizona Western Oil	Cal...	100,000	100,000	1		1,000	Sept.. 1900	.01
14	Bethlehem Steel	Pa...	15,000 000	300,000	50	150,000	1,050,000	Mar.. 1901	.50
15	Buckhorn Oil	Cal...	200,000	16,000	10		3,800	Mar.. 1900	.05
16	Burlington Oil	Cal...	60,000	60,000	1	600	4,200	Jan.. 1901	.01
17	California Oil & Gas	Cal...	2,000,000	200,000	10	250,000	250,000	Jan.. 1901	1.25
18	Cambria Iron	Pa...	10,000,000	169,320	50	169,320	846,600	Apr.. 1901	1.00
19	Cambria Steel	Pa...	16,000,000	320,000	50	160,000	1,760,000	Feb.. 1901	.50
20	Central Oil	W.Va	1,500,000	60,000	25	22,500	45,000	Feb.. 1901	.37½
21	Central Oil	Cal...	750,000	662,800	1	19,884	92,792	Mar.. 1901	.01
22	Central Point Con. Oil	Cal...	200,000	190,000	1	7,600	15,200	Feb.. 1901	.02
23	Colo. Fuel & Iron, pf	Colo..	2,000,000	20,000	100	80,000	1,240,000	Feb.. 1901	4.00
24	Consolidation Coal	Md...	10,250,000	102,500	100	205,000	5,318,000	Feb.. 1901	2.00
25	Continental Oil	Cal...	300,000	240,000	1	7,200	7,200	Apr.. 1901	.03
26	Crucible Steel, pf	U. S..	25,000,000	250,000	100	426,991	853,982	Mar.. 1900	1.75
27	Diamond Star Oil	Cal...	250,000	100,000	1		6,250	Nov.. 1900	.02
28	Diamond State Steel	Del ..	3,000,000	150,000	10	60,000	160,000	Jan.. 1901	.40
29	Empire Steel & Iron, pf.	U. S..	5,000,000	23,700	100	35,550	213,300	Jan.. 1901	1.50
30	Federal Steel, com	U. S..	100000,000	464,843	100	2,324,215	4,067,377	Feb.. 1901	5.00
31	Federal Steel, pf	U. S..	100000,000	532,609	100	798,914	7,456,568	Jan.. 1900	1.50
32	Flat Top C. L. Ass'n,com	Va. ..	5,000,000	37,141	100	37,141	815,699	Feb.. 1901	1.00
33	Flat Top C. L. Ass'n, pf..	Va. ..	5,000,000	37,141	100	37,141	1,987,027	Feb.. 1901	1.00
34	Four Oil	Cal...	300,000	300,000	1	3,000	3,000	Feb.. 1901	.01
35	General Chem., com	U. S..	12,500,000	71,679	100	71,679	485,945	Mar.. 1901	1.00
36	General Chem., pf	U. S..	12,500,000	82,600	100	123,900	889,778	Mar.. 1901	1.50
37	Gray Eagle Oil	Cal...	250,000	100,000	2½	50,000	170,000	Jan.. 1901	.50
38	Great Western Oil	Cal...	100,000	10,000	10		10,000	Oct.. 1900	.10
39	Home Oil	Cal...	100,000	100,000	1	30,000	230,000	Mar.. 1901	.10
40	Homestake Oil	Cal...	100,000	10,000	10	4,000	27,000	Mar.. 1901	.20
41	Jefferson&Clearf. C'l,cm	Pa...	1,500,000	15,000	100		30,000	Aug.. 1900	2.00
42	Jefferson&Clearf. C'l,pf.	Pa....	1,500,000	15,000	100	37,500	225,000	Feb.. 1901	2.50
43	Kern Oil	Cal...	100,000	100,000	1	25,000	375,000	Jan.. 1901	.25
44	Kern River Oil	Cal...	100,000	20,000	5		10,000	Sept.. 1900	.50
45	Lehigh Coal & Nav	Pa....	14,346,650	286,933	50		18,516,990	Oct.. 1900	1.50
46	Maryland Coal, pf.	Md...	1,885,005	18,850	100		640,869	Dec.. 1900	3.00
47	Monongahela R. Coal,pf	Pa....	10,000,000	200,000	50	350,000	700,000	Jan.. 1901	1.75
48	Montana Coal & Coke	Mont.	5,000,000	200,000	25		120,000	Oct.. 1900	.30
49	National Salt, com	U. S..	7,000,000	70,000	100	105,000	350,000	Feb.. 1901	1.50
50	National Salt, pf	U. S..	5,000,000	50,000	100	87,500	612,500	Feb.. 1901	1.75
51	National Steel, pf	U. S..	27,000,000	270,000	100	472,500	3,780,000	Mar.. 1901	1.75
52	National Tube, com	U. S..	40,000,000	398,604	100	597,906	1,793,718	Feb.. 1901	1.50
53	National Tube, pf	U. S..	40,000,000	399,963	100	1,899,870	4,899,546	Apr.. 1901	1.75
54	New Central Coal	Md...	1,000,000	50,000	20		510,000	Nov.. 1900	.40
55	New Haven Iron & Steel	Conn.	500,000	100,000	5	17,500	112,500	Apr.. 1901	.10
56	Oceanic Oil	Cal...	$100,000	100.000	$1		$2,000	Dec.. 1900	.01
57	Pacific Coast Borax	Cal...	2,000,000	19,000	100	$57,000	819,500	Mar.. 1901	1.00
58	Park Crude Oil	Cal...	100,000	82,146	1		4,897	Sept.. 1900	.01
59	Pennsylvania Coal	Pa....	5,000,000	100,000	50		19,700,000	Nov.. 1900	2.00
60	Pennsylvania Salt Mfg.	Pa....	2,500,000	50,000	50		12,550,000	Oct.. 1900	3.00
61	Pennsylvania Steel, pf	Pa....	1,500,000	15,000	100	52,500	183,750	Apr.. 1901	1.75
62	Phila. Gas, com	Pa....	14,752,131	295,042	50	184,402	922,010	Jan .. 1901	.62½
63	Phila. Gas, pf	Pa....	3,998,350	79,967	50	99,959	299,877	Mar.. 1901	1.25
64	Pittsburg Coal., pf	Pa....	32,000,000	320,000	100	560,000	2,800,000	Jan.. 1901	1.75
65	Producers' & Con. Oil	Cal...	1,000,000	10,000	100	4,000	57,000	Mar.. 1901	.10
66	Republic Iron & Steel,pf	U. S..	25,000,000	203,069	100	710,742	2,487,596	April. 1901	1.75
67	Rex Oil	Cal...	500,000	85,000	5		26,000	Oct.. 1900	.03
68	San Joaquin Oil	Cal...	100,000	100,000	1	10,000	10,000	Jan.. 1901	.10
69	Shawmut Oil	W.Va	1,250,000	50,000	25	25,000	25,000	Feb.. 1901	.50
70	Shelby Iron	Ala..	1,000,000	10,000	100		250,000	June. 1900	12.00
71	Sloss-Sheffield Ir.&St.,pf	U. S..	20,000,000	67,000	100	231,250	573,250	Apr.. 1901	1.75
72	So. Cal. Oil & Fuel	Cal...	300,000	100,000	1		3,000	Dec.. 1900	.00½
73	Standard Oil (of N. J.)	U. S..	100000,000	975,000	100	19,500,000	92,625,000	Mar.. 1901	20.00
74	Sunday Lake Iron	Mich.	1,000,000	40,000	25	40,000	40,000	Feb.. 1901	1.00
75	Susquehanna I. & S., pf.	Pa..	1,500,000	300,000	5	22,500	537,500	Jan.. 1901	.07½
76	Tenn. Coal, I. &R.R.,com	Tenn.	23,000,000	225,536	100		1,102,144	Nov.. 1900	2.00
77	Tenn. Coal, Ir. & R.R.,pf	Tenn.	248,000	2,480	100	4,960	248,000	Feb.. 1901	2.00
78	Texas & Pacific Coal	Tex..	2,000,000	20,000	100	60,000	1,860,000	Apr.. 1901	1.50
79	United States Crude Oil	Cal...	100,000	10,000	1		3,200	Dec.. 1900	.03
80	United States Marble	Wash	1,500,000	1,500,000	1	3,750	3,750	Mar.. 1901	.00¼
81	United States Oil	W.Va	2,500,000	100,000	25		744,250	Oct.. 1900	.50
82	Va.-Carolina Chem.,com	U. S..	12,000,000	90,000	100	90,000	810,000	Mar.. 1901	1.00
83	Va.-Carolina Chem.,pf..	U. S .	12,000,000	100,000	100	200,000	1,400,000	Jan.. 1901	2.00
84	Warwick Iron & Steel	Pa....	1,500,000	14,133	100		158,597	Nov.. 1900	2.00
85	West Lake Oil	Cal ..	500,000	500,000	1		50,000	Sept.. 1900	.01
86	Westmoreland Coal	Pa....	5,000,000	250,000	50		750,000	Oct.. 1900	1.50
87	Yukon Oil	Cal...	2,500,000	100,000	2½		21,000	Oct.. 1900	.02

This table is corrected up to March 18th. Correspondents are requested to forward changes or additions.

DIVIDENDS.

GOLD, SILVER, COPPER, ZINC, LEAD AND QUICKSILVER COMPANIES.

Number.	Name and Location of Company.		Authorized Capital Stock.	Shares. Issued.	Par Val	Dividends. Paid, 1901.	Total to Date.	Latest. Date.	Amt.
1	Acacia, g.	Colo.	$1,500,000	1,500,000	$1		$45,000	Dec. 1900	.01
2	Adams, s.l.c.	Colo.	1,500,000	150,000	10		701,000	Nov. 1900	.05
3	Ætna Con., q.	Cal.	500,000	100,000	5		225,000	Apr. 1900	.15
4	Alaska Goldfields	Alask	1,500,000	250,000	5	$127,500	252,500	Jan. 1901	.51
5	Alaska-Mexican, g.	Alask	1,000,000	180,000	5	18,000	519,031	Jan. 1901	.10
6	Alaska-Treadwell, g.	Alask	5,000,000	200,000	25	75,000	4,595,000	Jan. 1901	.37½
7	Alice, g. s.	Mont.	10,000,000	400,000	25		1,875,000	Apr. 1898	.05
8	Alliance, g.	Colo.	500,000	500,000	1		47,500	Nov. 1899	.07
9	Amalgamated, c.	Mont.	75,000,000	750,000	100	1,500,000	9,000,000	Jan. 1901	2.00
10	Amanda, g.	Colo.	1,000,000	1,000,000	1		10,000	June. 1900	.01
11	Amazon, g.	Colo.	600,000	600,000	1		121,882	May. 1900	.10
12	American, g.	Colo.	3,000,000	300,000	10		446,000	Dec. 1899	.07
13	Amer. Sm & Ref., pref.	U. S.	32,500,000	274,000	100	479,500	3,162,053	Jan. 1901	1.75
14	Am. Zinc, Lead & Sm.	Mo.	2,500,000	60,000	25		180,000	Jan. 1900	1.00
15	Anaconda, c.	Mont.	30,000,000	1,200,000	25		16,950,000	Oct. 1900	2.00
16	Anchoria-Leland, g.	Colo.	600,000	600,000	1		198,000	Apr. 1899	.03
17	Anglo-Mexican, g.	Mex.	2,001,625	400,230	25		1,825,048	Dec. 1899	.24
18	Appie Ellen, g.	Colo.	600,000	600,000	1		25,000	Nov. 1898	.04
19	Apollo Con., g	Alask	1,000,000	100,000	10		210,000	Jan. 1900	.07
20	April Fool, g.	Nev.	500,000	500,000	1		16,000	Oct. 1899	.03
21	Argonaut, g.	Cal.	2,000,000	200,000	10		490,000	May. 1900	.05
22	Arizona, c.	Ariz.	3,190,550			421,153	1,886,001	Mar. 1901	1.32
23	Associated, g.	Colo.	1,250,000	1,250,000	1		84,000	Feb. 1899	.01
24	Atlantic, c.	Mich.	1,000,000	40,000	25	80,000	880,000	Feb. 1901	2.00
25	Bald Butte, g. s.	Mont.	250,000	250,000	1	45,000	967,148	Mar. 1901	.06
26	Bankok-Cora Belle, g.	Colo.	600,000	600,000	1		107,510	July. 1896	.01
27	Big Seven, g.	Cal.	100 000	100,000	1		6,000	Apr. 1898	.03
28	Big Six, g. s. l.	Colo.	500,000	500,000	1		15,000	May. 1898	.001½
29	Boston, q.	Cal.	1,000,000	100,000	10		20,000	Jan. 1900	.10
30	Boston-Aurora, pref.	Mo.	800,000	32,000	25		66,160	May. 1900	.50
31	Boston & California, g.	Cal.	600,000	600,000	1		72,000	June. 1899	.06
32	Boston & Colo. Smelting	Colo.	750,000	15,000	50	11,250	326,350	Jan. 1901	.75
33	Boston Duenweg, z.	Mo.	1,000,000	40,000	10		56,000	June. 1900	.10
34	Boston Get There, z.	Mo.	250,000	22,500	10		20,250	Apr. 1900	.10
35	Boston Gold-Copper Sm.	Colo.	1,000,000	1,000,000	1		50,000	Nov. 1900	.02½
36	Boston & Mont. Con., c.s.g	Mont.	3,750,000	150,000	25	1,500,000	22,475,000	Feb. 1901	10.00
37	Boston-Phila., z. l.	Kas.	200,000	20,000	10		2,000	May. 1900	.10
38	Boston-Providence, z., pf	Mo.	150,000	15,000	10		17,242	Aug. 1900	.05
39	Boston Springfield, z.	Mo.	500,000	20,000	25		15,000	June. 1900	.25
40	Boston Sunflower, z.	Mo.	150,000	15,000	10		4,500	Oct. 1899	.30
41	Breece, i. s.	Colo.	5,000,000	200,000	25	10,000	110,000	Feb. 1901	.05
42	Buffalo Hump, g.	Idaho	1,000,000	100,000	10	25,000	300,000	Jan. 1901	.10
43	Bull Hill Con., g.	Colo.	1,500,000	1,500,000	1	45,000	60,000	Mar. 1901	.01
44	Bullion-Beck & Champ.	Utah.	1,000,000	100,000	10		2,498,400	June. 1900	.10
45	Bunker Hill & Sullivan.	Idaho	3,000,000	300,000	10	63,000	1,116,090	Mar. 1901	.07
46	Butte & Boston Con., c.	Mont.	2,000,000	200,000	10		1,000,000	Dec. 1900	5.00
47	Butterfly-Terrible, g.	Colo.	1,500,000	1,250,000	1	6,250	6,250	Jan. 1901	.001½
48	Calumet & Hecla, c.	Mich.	2,500,000	100,000	25		72,850,000	Dec. 1900	20.00
49	Cariboo-McKinney, g.	B. Col	1,250,000	1,250,000	1		478,087	Oct. 1900	.01½
50	Centen'l-Eureka, g. s. l. c.	Utah.	5,000,000	100,000	25	50,000	2,467,700	Jan. 1901	.50
51	Center Creek, l. z.	Mo.	1,000,000	100,000	10		40,000	Dec. 1900	.20
52	Center Star, g.	B. C.	3,500,000	3,500,000	1	105,000	175,000	Apr. 1901	.01
53	Central Lead, l.	Mo.	1,000,000	10,000	100	15,000	222,000	Mar. 1901	.50
54	Champion, g. s.	Cal.	340,000	34,000	10		402,300	Dec. 1899	.25
55	Cloverdale, z.	Mo.	1,000,000	100,000	10		80,000	July. 1900	.20
56	C. O. D., g.	Colo.	500,000	500,000	1		25,000	Mar. 1896	.01
57	Colonial, l.	Mo.	1,000,000	1,000,000	1		10,000	Aug. 1899	.01
58	Columbia, l.	Mo.	500,000	48,500	10		12,125	June. 1900	.05
59	Columbian Hyd., c.	C'l'm	375,000	75,000	5		454,500	Jan. 1899	.12
60	Commodore, g.	Colo.	1,200,000	1,200,000	1		432,000	Jan. 1899	.04
61	Commonwealth, z., pref.	Mo.	500,000	100,000	5		50,000	June. 1900	.05
62	Consolidated Gold Mines	Colo.	1,000,000	1 000,000	1	30,000	160,000	Mar. 1901	.01
63	Con. Mercer Gold Mines.	Utah.	5,000,000	1,000,000	5		1,591,000	Nov. 1900	.11
64	Consolidated, z. l., pf.	Mo.	400,000	400,000	1		8,000	Jan. 1900	.20
65	Copiapo, c.	Chile.	1,000,000	100,000	10		2,520,000	July. 1899	1.44
66	Cordell, z. l.	Mo.	300,000	60,000	5		30,000	Sept. 1900	.05
67	Cripple Creek Con., g.	Colo.	2,000,000	2,000,000	1		160,000	Mar. 1900	.08
68	Cresus, g.	Cal.	1,000,000	200,000	5	24,000	175,300	Mar. 1901	.06
69	Crowned King, g. s.	Ariz.	6,000,000	600,000	10		242,760	May. 1899	.02
70	Dalton & Lark, g. s. l.	Utah.	2,500,000	2,500,000	1		87,500	Mar. 1896	.00½
71	Daly West, g.	Utah.	3,000,000	150,000	20	135,000	742,500	Mar. 1901	.30
72	Deadwood-Terra, g.	S. D.	5,000,000	200,000	25		1,350,000	May. 1898	.15
73	Deer Trail Con., g.	Wash	3,000,000	3,000,000	1		55,000	Dec. 1899	.00½
74	De Lamar, g. s.	Idaho	2,000,000	400,000	5		2,394,000	May. 1900	.12
75	Della S., g. s.	Colo.	1,000,000	1,000,000	1		60,000	Jan. 1897	.01
76	Dewey Con., g.	Utah.	10,000	10,000	1	2,250	4,850	Feb. 1901	.07½
77	Dixie, g.	Utah.	125,000	125,000	1		10,000	Apr. 1900	.02
78	Doctor-Jack Pot Con., g	Colo.	3,000,000	2,900,000	1	87,000	87,000	Mar. 1901	.01
79	Doe Run, l.	Mo.	1,500,000	10,000	100	15,000	417,072	Jan. 1901	1.50
80	Ducktown, c. i. sul. (ord).	Tenn.	374,000	7,480	50		133,144	May. 1900	5.00
81	Ducktown (founder).	Tenn.	1,000	200	5		66,160	May. 1900	125.00
82	Eldorado, g.	Cal.	1,000,000	100,000	10		10,000	July. 1899	.10
83	Elkton Con., g.	Colo.	3,000,000	2,500,000	1	75,000	1,054,461	Mar. 1901	.03
84	El Oro. g. s.	Mex.	5,000,000	1,000,000	5	240,000	480,000	Feb. 1901	.24
85	Empire State-Idaho, l.s.	Idaho	6.000.000	505.542	10	150,663	803,351	Mar. 1901	.10
86	Enterprise, g.	Colo.	500,000	500,000	1		900,000	Sept. 1898	.05
87	Fanny Rawlings, g.	Colo.	1,000,000	1,000,000	1		20,000	Aug. 1899	.01
88	Fern, g.	B. C.	200,000	200,000	1		10,000	Jan. 1898	.05
89	Ferris-Haggarty, c.	Wyo.	1,000,000	1,000,000	1		5,000	Mar. 1899	.00½
90	Florence, s.	Mont.	2,500,000	400,000	5		223,780	Mar. 1901	.05
91	Frisco Con., l. s.	Idaho	2,500,000	500,000	5		920,000	Nov. 1899	.25
92	Frontino & Bolivia, c.	C'l'm	643,310	128,662	5		1,109,066	Oct. 1899	.36
93	Galena, s. l. g.	Utah.	1,000,000	100,000	10		71,000	Sept. 1897	.05
94	Garfield Con., g.	Colo.	1,200,000	1,200,000	1		34,000	May. 1899	.01
95	Gemini	Utah.	500,000	5,000	100		700,000	Aug. 1900	10.00
96	Gold Belt, g.	Colo.	1,250,000	1,250,000	1		112,500	Aug. 1900	.09
97	Gold Coin of Victor, g.	Colo.	1,000,000	1,000,000	1		690,000	Mar. 1901	.03
98	Gold Deposit, g.	Colo.	500,000	500,000	1		10,000	Mar. 1900	.02
99	Gold & Globe, g.	Colo.	750,000	750,000	1		51,625	July. 1897	.00½
100	Gold King, g.	Colo.	1,000,000	936,850	1		178,001	Oct. 1900	.03
101	Golden Cycle, g.	Colo.	1,000,000	200,000	5	30,000	408,500	Mar. 1901	.05
102	Golden Eagle, g.	Colo.	500,000	500,000	1		25,000	June. 1900	.01
103	Golden Fleece, g. s.	Colo.	600,000	600,000	1		569,480	Feb. 1897	.01
104	Golden Reward, g.	S. D.	1,000,000	100,000	10		155,000	Feb. 1898	.15
105	Grand Central, g. s.	Mex.	1,500,000	250,000	5		840,000	Jan. 1900	.48
106	Grand Central, g.	Utah.	250,000	250,000	1		691,250	Nov. 1900	.10
107	Grand Gulch, c.	Ariz.	250,000	240,000	1		9,600	Apr. 1900	.01
108	Grass Valley Expl	Cal.	100,000	30,000	2		30,000	Jan. 1900	.25
109	Greater Gold Belt, g.	Colo.	5,000,000	3,800,000	1		76,000	June. 1900	.02
110	Gwin, g.	Cal.	1,000,000	100,000	10	25,000	176,500	Feb. 1901	.10
111	Hall, c. s.	B. C.	1.625,000	267,609	5		220,000	May. 1899	.24
112	Hecla, l. s.	Idaho	250,000	1,000,000	¼		100,000	Dec. 1900	.02
113	Hecla Con., s. l.	Mont.	1.500,000	30,000	50	15,000	2,235,000	Feb. 1901	.50
114	Helena, g.	Ore.	1,000,000	1,000,000	1	15,000	65,000	Feb. 1901	.01
115	Hidden Treasure, g.	Cal.	360,000	36,000	10		457,452	Sept. 1900	.10
116	Holy Terror, g.	S. D.	500,000	500,000	1		172,000	Jan. 1900	.01
117	Home, g. (Leadville).	Colo.	2,000,000	2,000,000	1	25,000	125,000	Mar. 1901	.25
118	Homestake, g.	S. D.	21,000,000	210,000	100	315,000	9,718,750	Mar. 1901	.50
119	Horn-Silver, g. s. c. z. l.	Utah.	10,000,000	400,000	25		5,279,000	June. 1900	.05
120	Idaho, s. l.	B. C.	500,000	500,000	1		292,000	Jan. 1899	.05
121	Independence Con., g.	Colo.	2,500,000	2,500,000	1		100,000	Aug. 1900	.04
122	Ingham Con., g.	Colo.	750.000	1,359,600	½	10,197	10,197	Feb. 1901	.00¼
123	Iowa, g. s. l.	Colo.	$1,666,667	1,666,667	$1	$16,667	$133,500	Jan. 1901	.01
124	Iron Mountain, g. s. l. l.	Mont.	5,000,000	500,000	10		507,500	Apr. 1898	.02
125	Iron Silver	Colo.	10,000,000	500,000	20		2,550,000	Dec. 1900	.10
126	Isabella, g.	Colo.	2,250,000	2,250,000	1	22,500	742,500	Mar. 1901	.01
127	Jamison, g.	Cal.	3,900,000	390,000	10		50,700	Apr. 1899	.10
128	Klondike Bonanza, g.	Klon.	750,000	52,750	5		50,000	Aug. 1899	.34
129	La Fortuna, g.	Ariz.	250,000	250,000	1	37,500	953,000	Mar. 1901	.05
130	Lake City, g	Colo.	50,000	50,000	1		3,875	May. 1900	.01
131	Last Chance, s. l.	B. C.	500,000	500,000	1		45,000	Apr. 1899	.05
132	Last Dollar, g.	Colo.	1,500,000	1,500,000	1	30,000	150,000	Feb. 1901	.02
133	Le Roi, g.	B. Col	5,000,000	200,000	5		1,305,000	Nov. 1899	1.20
134	Lightner, g.	Cal.	125,000	102,255	1	2,556	15,338	Feb. 1901	.02½
135	Lillie, g.	Colo.	1,250,000	250,000	5		349,183	Apr. 1900	.05
136	Mammoth, g. s. c.	Utah.	10,000,000	400,000	25	20,000	1,810,000	Feb. 1901	.05
137	Marian Con., g. s. z, l. l.	Colo.	5,000,000	500,000	10		202,000	Sept. 1899	.01
138	Mary McKinney, g.	Colo.	1,000,000	1,000,000	1	30,000	210,000	Jan. 1901	.03
139	Midget, g.	Colo.	1,000,000	1,000,000	1		120,000	Dec. 1900	.15
140	Modoc, g. s.	Colo.	500,000	500,000	1	15,000	220,000	Mar. 1901	.01
141	Mollie Gibson, s. l.	Colo.	5,000,000	1,000,000	5		4,080,000	Jan. 1895	.05
142	Montana, Ltd., g. s.	Mont.	3,300,000	657,128	5		453,700	Apr. 1899	.12
143	Montana Ore Purchas'g.	Mont.	2,500,000	80,000	25	240,000	1,840,000	Jan. 1901	3.00
144	Montreal, g.	Colo.	1,000,000	750,000	1		7,500	Nov. 1898	.01
145	Monument, g.	Colo.	300,000	300,000	1	3,000	21,124	Feb. 1901	.01
146	Moon-Anchor, g.	Colo.	1,750,000	350,000	5		261,000	Nov. 1898	.07½
147	Moose, g.	Colo.	600,000	600,000	1		186,000	Feb. 1896	.01
148	Morning Star Drift, g.	Cal.	240,000	2,400	100		854,490	Sept. 1900	3.00
149	Morse, g.	Colo.	1,250,000	1,250,000	1		215,650	May. 1899	.12
150	Moulton, g.	Mont.	2,000,000	400,000	5		500,000	Oct. 1893	.05
151	Mountain, c.	Cal.	6,250,000	250,000	25		2,373,750	Oct. 1900	2.16
152	Mt. Diablo, s.	Nev.	5,000,000	50,000	100		260,271	Jan. 1900	.10
153	Mt. Rosa, g.	Colo.	1,000,000	1,000,000	1		75,000	Dec. 1899	.04
154	Mt. Shasta, g.	Cal.	100,000	20,000	5		6,000	May. 1899	.30
155	Napa Con., q.	Cal.	700,000	100,000	7	20,000	1,120,000	Apr. 1901	.10
156	National Lead, com.	U. S.	15,000,000	149,054	100		1,341,486	Mar. 1900	1.00
157	National Lead, pf.	U. S	15,000,000	149,040	100	260,820	10,840,100	Mar. 1901	1.75
158	New Elkhorn, g.	Colo.	437,500	87,500	5		1,825,000	June. 1898	.48
159	New Idria, q.	Cal.	500,000	100,000	5	40,000	290,000	Apr. 1901	.20
160	New Jersey Zinc.	U. S.	10,000,000	100,000	100	400,000	3,200,000	Feb. 1901	4.00
161	N. J. & Mo., z.	Mo.	250,000	2,500	100		11,000	June. 1900	2.00
162	New York, z.	Kas.	700,000	28,000	25		6,500	Oct. 1899	.25
163	N.Y.& Hon Rosario, s.g.	C. A.	1,500,000	150,000	10	60,000	1,475,000	Mar. 1901	.10
164	New Zealand, g.	Colo.	600,000	600,000	1	60,000	60,000	Jan. 1901	.10
165	North Star, g.	B. C.	1,500,000	1,300,000	1	39,000	156,000	Mar. 1901	.03
166	North Star, g.	Cal.	5,000,000	250,000	10		584,850	Nov. 1899	.20
167	Nugget, g.	Colo.	1,000,000	991,000	1	9,910	64,910	Jan. 1901	.01
168	Old Colony Zinc & Sm.	Mo.	1,100,000	69,909	10	17,477	85,753	Feb. 1901	.25
169	Omega, g.	Colo.	1,500,000	1,200,000	1		18,188	June. 1900	.01½
170	Ontario, s. l.	Utah.	15,000,000	150,000	100		13,662,500	Apr. 1900	.30
171	Original Empire, g.	Cal.	5,000,000	50,000	100		530,000	Oct. 1899	1.00
172	Orphan Belle, g.	Colo.	1,000,000	1,000,000	1		197,899	Dec. 1899	.09
173	Osceola, c.	Mich.	2,500,000	93,000	25		3,688,500	Dec. 1900	3.00
174	Parrot, c.	Mont.	2,300,000	229,850	10	344,775	4,738,600	Jan. 1901	1.50
175	Payne Con., s. l.	B. C.	3,000,000	2,600,000	1	78,000	1,438,000	Jan. 1901	.03
176	Pennsylvania Con., g.	Cal.	5,150,000	51,500	100		161,325	May. 1900	.10
177	Pioneer, g.	Cal.	1,000,000	200,000	5		62,500	Mar. 1899	.12½
178	Plumas Eureka, g.	Cal.	1,406,250	140,625	10		2,797,544	Apr. 1900	.60
179	Pointer, g.	Colo.	1,250,000	1,250,000	1	12,500	12,500	Mar. 1901	.01
180	Portland, g.	Colo.	3,000,000	3,000,000	1	180,000	3,487,080	Jan. 1901	.06
181	Princess, g.	Colo.	1,000,000	1,000,000	1		55,000	Feb. 1897	.00½
182	Queen Bess, s. l.	B. C.	500,000	100,000	5		25,000	July. 1899	.12½
183	Quicksilver, pref.	Cal.	4,300,000	43,000	100		1,866,911	July. 1900	.50
184	Quincy, c.	Mich.	2,500,000	100,000	25	300,000	12,270,000	Feb. 1901	3.00
185	Rambler—Cariboo, s. l.	B. Col	1,250,000	1,250,000	1		105,000	Apr. 1900	.01
186	Reco, s. l.	B. C.	1,000,000	1,000,000	1		287,500	Jan. 1898	.10
187	Republic Con., g.	Wash	3,500,000	3,500,000	1		382,500	Mar. 1900	.01
188	Reward, g.	Cal.	1,000,000	100,000	10		20,000	Aug. 1899	.20
189	Rocco-Homestake, g. s.	Nev.	300,000	300,000	1	13,500	22,500	Mar. 1901	.01½
190	Russell-Irwin, z.	Mo.	250,000	25,000	10		15,000	Oct. 1899	.10
191	Sacramento, g.	Utah.	5,000,000	1,000,000	5		138,000	Oct. 1899	.00½
192	St. John del Rey, g.	Br'zil	3,000,000	425,482	5		13,633,991	Dec. 1900	.24
193	St. Joseph, l.	Mo.	3,000,000	250,000	10	37,500	3,347,000	Mar. 1901	.15
194	Santa Rita, g.	Colo.	1,000,000	1,000,000	1		4,000	July. 1900	.02
195	Silver King, g. s. l.	Utah.	3,000,000	150,000	20	275,000	3,725,000	Mar. 1901	.66½
196	Silver Shield, g.	Utah.	300,000	300,000	1	3,000	4,500	Feb. 1901	.00½
197	Small Hopes, s.	Colo.	5,000 000	250,000	20		3,325,000	Feb. 1899	.10
198	Smuggler, s. l. z.	Colo.	1,000,000	1,000,000	1	90,000	1,820,000	Mar. 1901	.03
199	Southern Boy, g.	Colo.	1,250,000	875,000	1		17,500	May. 1900	.02
200	South Swansea, s. l.	Utah.	300,000	275,000	1	7,500	172,500	Mar. 1901	.05
201	Squaw Mountain, g.	Colo.	2,000,000	2,000,000	1		10,000	Nov. 1899	.00½
202	Standard Con., g. s.	Cal.	2,000,000	178,394	10	17,839	3,981,941	Feb. 1901	.10
203	Standard, s. l.	Idaho	500,000	500,000	1	25,000	2,215,000	Feb. 1900	.05
204	Stratton's Independ'ce.	Colo.	5,500,000	1,000,007	5	120,001	2,885,353	Jan. 1901	.12
205	Swansea, s. l.	Utah.	500,000	100,000	5	15,000	291,500	Mar. 1901	.05
206	Tamarack, c.	Mich.	1,500,000	60,000	25		7,290,000	Dec. 1900	10.00
207	Tomboy, g.	Colo.	1,500,000	300,000	5		956,000	Dec. 1900	.24
208	Touraine, g.	Colo.	1,250,000	1,250,000	1		87,500	Apr. 1900	.07
209	Union, g.	Colo.	1,250,000	1,250,000	1		395,244	Sept. 1900	.25
210	Union, z. l.	Kas.	500,000	500,000	1	15,000	50,000	Mar. 1901	.01
211	United, z. l., pref.	Mo.	6,000,000	14,938	25		30,263	Oct. 1900	.50
212	Utah, g.	Utah.	1,000,000	100,000	10		181,000	Oct. 1900	.02
213	Vindicator Con., g.	Colo.	1,500,000	1,500,000	1	27,500	521,000	Jan. 1901	.02½
214	War Eagle Con., g. s. c.	B. C.	2,000,000	1,750,000	1		545,250	Feb. 1900	.01½
215	What Cheer, z.	Mo.	225,000	22,500	10		11,250	May. 1900	.20½
216	Wolverine, c.	Mich.	1,500,000	60,000	25		510,000	Oct. 1900	2.00
217	Yellow Aster, g.	Cal.	1,000,000	100,000	10		459,410	Dec. 1900	.10
218	Ymir, g.	B. C.	1,000,000	200,000	5	48,000	96,000	Jan. 1901	.24
219	Zoe, g.	Colo.	1,500,000	1,500,000	1		7,500	Dec. 1900	.00½
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This table is corrected up to March 18th. Correspondents are requested to forward changes or additions.

CHEMICALS, MINERALS, RARE ELEMENTS, ETC.—CURRENT WHOLESALE PRICES.

Abrasives—	Cust. Meas.	Price.
Carborundum, f.o.b. Niagara Falls, Powd., F. FF. FFF	lb.	$0.12
Minute No. 1	"	.15
No. 15	"	1.00
Corundum, N. C.	"	.07@.10
Chester, Mass.	"	.04½@.05
Crushed Steel, f. o. b. Pittsburg	"	.05½
Emery, Turkish flour, in kegs	"	.03
Grains, in kegs	"	.04½@.05
Naxos flour, in kegs	"	.03
Grains, in kegs	"	.05
Chester flour, in kegs	"	.03
Grains, in kegs	"	.04½@.05
Peekskill flour, in kegs	"	.01¾
Grains, in kegs	"	.02½
Crude, ex-ship, N. Y.:		
Kuluk (Turkey)	lg. ton	22.00@24.00
Abbott (Turkey)	"	26.50@30.00
Naxos (Greek) h. gr.	"	32.00
Pumice Stone, Am. powd.	lb.	.01½@.02
Italian, powdered	"	.01½
Lump, per quality	"	.04@.40
Rottenstone, ground	"	.02½@.03
Lump, per quality	"	.05@.14
Rouge, per quality	"	.10@.30
Steel Emery, f.o.b. Pittsburg	"	.07
Acids—Acetic, 30% pure	100 lbs.	3.50
30% ch. pure	"	6.00
80% pure	"	7.50
Benzoic, English	oz.	.12
German	lb.	.40
Boracic, crystals	"	.10½@.11
Powdered	"	.11@.11½
Carbolic, crude, 60%	gal.	.27
Cryst. 37% drums	lb.	.23
Liquid, 95%	gal.	.45
Carbonic, liquid gas	lb.	.12½
Chromic, crude	"	.20
Chem. pure	"	.50
Hydrochloric, ch. pure	"	.07
Hydrofluoric, 30%	"	.03
48%	"	.05
Best	"	.25
Nitric, chem. pure	"	.09
Sulphuric, chem. pure	"	.07
Sulphurous, liquid anhy.	"	.08
Tartaric, cryst.	"	.29@.29½
Powder	"	.30@.30½
Alcohol—Grain	gal.	3.45
Refined wood, 95@97%	"	.60@.65
Purified	"	1.20@1.50
Alum—Lump	100 lbs.	1.75
Ground	"	1.85
Powdered	"	3.00
Chrome, com'l	"	2.75@3.00
Aluminum—Nitrate	lb.	1.50
Oxide, com'l, common	"	.06½
Best	"	.20
Pure	"	.80
Hydrated	100 lbs.	2.00
Sulphate, pure	"	1.50@1.75
Com'l	"	1.15@1.25
Ammonia—Aqua, 16°	lb.	.03
18°	"	.03¼
20°	"	.03¾
26°	"	.05½
Ammonium—		
Bromide, pure	"	.52@.53
Carbonate lump	"	.08¼@.08½
Powdered	"	.09½@.09¾
Muriate, gran.	"	.06
Lump	"	.09¼
Nitrate, white, pure (99%)	"	.10¼
Phosphate, com'l	"	.10
Chem. pure	"	60
Antimony—		
Glass	"	.30@.40
Needle, lump	"	.05½@.06
Powdered, ordinary	"	.05¾
Best	"	.08½
Oxide, com'l white, 95%	"	.09½
Com'l white, 99%	"	.12
Com'l gray	"	.07
Sulphuret, com'l	"	.16
Arsenic—White	"	.04½@.04⅝
Red	"	.07@.07¼
Asphaltum—		
Ventura, Cal.	sh. ton	32.00
Cuban	lb.	.01½@.03½
Egyptian, crude	"	.05½@.06
Trinidad, refined	lg. ton	35.00
San Valentino (Italian)	"	16.00
Seyssel (French) mastic	sh. ton	21.00
Gilsonite, Utah, ordinary	lb.	.03
Select	"	.03¾
Barium—Carbonate, Lump, 80@90%	sh. ton	25.00@27.50
92@98%	"	26.00@29.00
Powdered, 80@90%	lb.	.01¾@02
Chloride, com'l	"	.02@.02½
Chem. pure cryst	"	.03
Nitrate, powdered	"	.06
Oxide, com'l, hyd. cryst	"	.18
Hydrated, pure cryst.	"	.25
Pure, powd.	"	.27
Sulphate	"	.01
Barytes—Am. Cr., No. 1	sh. ton	9.00
Crude, No. 2	"	8.00
Crude, No. 3	"	6.75
German, gray	"	14.50
Snow white	"	17.00
Bauxite—Ga. mines: 1st grade	lg. ton.	5.00
Second grade	"	4.25@4.50
Ala., f.o.b., 1st grade	"	5.00
Second grade	"	4.25@4.50
Bismuth—Subnitrate	lb	1.75
Subcarbonate	"	1.95
Bitumen, "B"	"	.03½
"A"	"	.05
"A" and "B"	"	.04½
Bone Ash	"	03¾@.03½

	Cust. Meas.	Price.
Borax	lb.	$ .07¼@.07½
Calcined	"	.25
Bromine	"	.40
Cadmium—Metallic	"	1.40
Sulphate	100 lbs.	2.00@2.50
Calcium—Acetate, gray	"	1.55
" brown	"	1.05
Carbide, ton lots, f. o. b. Niagara Falls, N.Y.	sh. ton	80.00
Carbonate, ppt.	lb.	.05
Chloride, com'l	100 lbs.	.75
Best	"	.80
Sulphite	lb.	.05
Cement—		
Portland, Am.	400 lbs.	1.50@2.00
Belgium	"	1.95@2.20
English	"	2.45@2.55
German	"	2.30@2.70
"Rosendale," 300 lbs.	"	1.05
Sand cement, 400 lbs.	"	1.55@1.95
Slag cement, imported	"	1.65
Ceresine—		
Orange and Yellow	lb.	.12
White	"	.14
Chalk—Lump, bulk	sh. ton	2.15@2.25
Ppt. per quality	lb.	.03¾@.06
Chlorine—Liquid	"	.30
Water	"	.15
Chrome Ore—		
(50% ch.) ex-ship, N. Y.	lg. ton	24.00
Sand, f.o.b. Baltimore	"	33.00
Bricks, f.o.b., Pittsburg, M		175.00
Clay, China—Am. com., ex-dock, N. Y.	lg ton	8.00
Am. best, ex-dock, N. Y.	"	9.00
English, common	"	12 00
Best grade	"	17 00
Fire Clay, ordinary	sh. ton	4.25
Best	"	6.00
Slip Clay	"	7.00
Coal Tar Pitch	gal.	.08
Cobalt—Carbonate	lb.	1.75
Nitrate	"	1.50
Oxide—Black	"	2.26@2.30
Gray	"	2.28@2.40
Smalt, blue ordinary	"	.10
Best	"	.20
Copperas	100 lbs.	.40@.45
Copper—Carbonate	lb.	.18
Chloride	"	.25
Nitrate, crystals	"	.35
Oxide, com'l	"	.19
Cream of Tartar—Crys.	"	.19¼@.19½
Powdered	"	.19¾@20
Cryolite	"	.06½
Explosives—		
Blasting powder, A. 25 lb. keg		2.50
Blasting powder, B.	"	1.25
"Rackarock," A.	lb.	.25
"Rackarock," B.	"	.18
Judson R.R. powder	"	.10
Dynamite (20% nitro-glycerine)	"	.13
(30% nitro-glycerine)	"	.14
(40% nitro-glycerine)	"	.15
(50% nitro-glycerine)	"	.16½
(60% nitro-glycerine)	"	.18
(75% nitro-glycerine)	"	.21
Glycerine for nitro (32 2-10° Be.)	"	.13¼@.13½
Feldspar—Ground	sh. ton	8.00@9.00
Fluorspar—		
Am. lump, 1st grade	"	14.40
2d grade	"	13.90
Gravel & crushed, 1st g	"	13.40
2d grade	"	12.90
Ground, 1st grade	"	18.00
Foreign, lump	"	8.00@12.00
Ground	"	11.50@14.00
Fuller's Earth—Lump	100 lbs.	.75
Powdered	"	.85
Refined lump	"	1.25
Graphite—Am. f. o. b. Providence, R.I. lump	sh. ton	8.00
Pulverized	"	30.00
German, lump	lb.	.01¼
Pulverized	"	.01½@.02
Ceylon, common	"	.03½
Pulverized	"	.04@.08
Italian, pulv	"	.01¼
Gypsum—Ground	sh. ton	8.00@8.50
Fertilizer	"	7.00
Rock	lg. ton	4.00
English and French	"	14.00@16.00
Infusorial Earth—Ground, American, best	"	20.00
French	"	37.50
German	"	40.00
Iodine—Crude	100 lbs.	2.45
Iron—Muriate	lb.	.05
Nitrate, com'l	"	.01¼
True	"	.03½
Oxide, pure copperas col	"	.05@.10
Purple-brown	"	.02
Venetian red	"	.01@.01½
Scale	"	.01@.03
Kaolin—(See Clay, China).		
Kryolith—(See Cryolite.)		
Lead—Acetate, white	lb.	.07
Com'l, broken	"	.06½
Brown	"	.05½
Nitrate, com'l	"	.06½
" gran.	"	.8½
Lime—Com., ab. 250 lbs	bbl.	.70
Finishing	"	.80
Magnesite—Greece.		
Crude (95%)	lg. ton	6.50@7.00
Calcined	sh. ton	14.00@15.00
Bricks	M.	170.00
Am. Bricks, f.o.b. Pittsburg	"	175.00
Magnesium—		
Carbonate, light, fine pd	lb.	.03¾
Blocks	"	.06@.09
Chloride, com'l	"	.01¾
Fused	"	.20

	Cust. Meas.	Price.
Magnesium—		
Nitrate	lb.	$0.60
Sulphate	100 lbs.	.90
Manganese—Crude-pow'd 73@75% binoxide	lb.	.01¼@.01½
Crude, pow'd 75@85% binoxide	"	.01½@.02½
85@90% binoxide	"	.02½@.03¼
90@95% binoxide	"	.02¾@.05½
Carbonate	"	.16@.20
Chloride	"	.04
Ore, 50%, Foreign	unit	.26¾
Domestic	"	.30
Marble—Flour	sh. ton	6.00@7.00
Mercury—Bichloride	lb.	.77
Mica—N. Y. gr'nd, coarse	"	.03@.04
Fine	"	.04@.05
Sheets, N. C., 2x4 in	"	.30
3x3 in	"	.80
3x4 in	"	1.50
4x4 in	"	2.00
6x6 in	"	3.00
Scrap, f.o.b., Dillsboro, N. C.	sh. ton.	25.00
Mineral Wool—		
Slag, ordinary	sh. ton	19.00
Selected	"	25.00
Rock, ordinary	"	32.00
Selected	"	40.00
Monazite—92%	"	140.00
Nickel—Oxide, No. 1	lb.	1.00
No. 2	"	.60
Sulphate	"	.20@.21
Oils—Black, reduced 29 gr.		
25@30 cold test	gal.	.09¾@.10¼
15, cold test	"	.10¾@.11¼
Zero	"	.11¾@.12¾
Summer	"	.09¼@.09¾
Cylinder, dark steam ref	"	.08¾@.10¼
Dark filtered	"	.11¼@.16¼
Light filtered	"	.14¼@.17¾
Extra cold test	"	.21¾@.26¼
Gasoline, 86° @ 90°	"	.16@.21
Naphtha, crude 68@72°	bbl.	9.60
"Stove"	gal.	.12
Linseed, domestic raw	"	.62@.64
Boiled	"	.65
Calcutta, raw	"	.85
Graphite, lubricating, Am. dry		
In oil		
Axle grease		
Wood grease		
Ozokerite	lb.	.10@.12
Paints and Colors—		
Chrome green, common	"	.05
Pure	"	.16
Yellow, common	"	.10¼
Best	"	.25
Silica Graphite, thick	"	.12
Thinned	gal.	1.15
Lampblack, com'l	lb.	.03
Refined	"	.07
Litharge, Am. powd.	"	.05½@.06
English flake	"	.08
Glassmakers	"	.07½
Metallic, brown	sh. ton	19.00
Red	"	16.00
Ocher, Am. common	"	9.25@10.00
Best	"	21.25@25.00
Dutch, washed	lb.	.04¾
French, washed	"	.01¼@.02
Orange mineral, Am.	"	.07¾
Foreign, as to make	"	.07¾@.08¾
Paris green, pure, bulk	"	.12
Red lead, American	"	.06
Foreign	"	.07¾
Shellac, "D. C."	"	.30
Native	"	.15
Turpentine, spirits	gal.	.40½
Ultramarine, best	lb.	.25
Vermilion, Amer. lead, Quicksilver, bulk	"	.14@.16
Foreign	"	.70
	"	.70@.90
White lead, Am., dry	"	.05¼
American, in oil	"	.06½
English, in oil	"	.07¾
Whiting, common	100 lbs.	.42
Gilders	"	.54
Zinc white, Am., ex. dry	lb.	.04⅝@.04⅞
American, red seal	"	.06½
Green seal	"	.07
Foreign, red seal, dry	"	.06½@.06⅝
Green seal, dry	"	.07¾@.09⅞
Potash—Caustic, ord.	"	.04½@.05
Elect. (90%)	"	.06½
Potassium—		
Bicarbonate cryst	"	.08¼
Powdered or gran.	"	.14
Bichromate, Am.	"	.08¼
Scotch	"	.08½
Carbonate, hydrated	"	.04½
Calcined	"	.04
Chromate	"	.35
Cyanide (98@99%)	"	.27
Iodide, bulk	"	2.30
Permanganate, pure cr.	"	.11@.11¼
Prussiate, yellow	"	.14⅝@.15
Red	"	.37
Silicate	"	.06
Sulphide, com'l	"	.10
Quartz—(See Silica).		
Rosin—		
Com. strained (280 lbs.)	bbl.	1.65
Best strained	"	2.90
Medium	"	1.80
Salt—N Y com fine	sh. ton	2.00
N. Y. agricultural	"	1.50
Saltpeter—		
Crude	100 lbs.	3.50
Refined	"	4.25
Silica—Best foreign	lg. ton	10 00@11.00
Ground quartz, ord.	sh. ton	6.00@8.00
Best	"	12.00@13.00
Lump quartz	"	2.50@4.00
Glass sand	"	2.75
Silicon—Carbide	lb.	.05

Silver—	Cust. Meas.	Price.
Chloride	oz.	$0.65
Nitrate	"	.40
Oxide	"	.85@1.10
Slate—Ground, black	sh. ton	7.50@8.75
Ground, red and olive	"	20.00
Sodium—Acetate, com'l	lb.	.04¼
Bichromate	"	.06¼
Chlorate, com'l	"	.09@.09¼
Hyposulphite, Am.	100 lbs.	1.80
German	"	2.00
Nitrite: 96@98%	lb.	.08
Peroxide	"	.45
Phosphate	"	.02¼
Prussiate	"	.12½
Silicate, conc	"	.03
com'l	"	.01
Sulphate, com'l	100 lbs.	.70
Gran., puri'd	lb.	.08
Sulphide	"	.01¾
Sulphite crystals	"	.02¼
Tungstate, com'l	"	.35
Strontium—Nitrate	"	.08
Sulphur—Roll	100 lbs.	1.75
Flour	"	1.80
Flowers, sublimed	"	2.05
Talc—N. C., 1st grade	sh. ton	13.75
N. Y., Fibrous	"	8.00@9.00
French, best	100 lbs.	1.25
Italian, best	"	1.62½
Tar—Regular	bbl.	1.90
Oil barrels	"	3.75
Tin—Bichloride	lb.	.09½@.10
Crystals	"	.20
Muriate, 36°	"	.09
52°	"	.15
Oxide, white, ch. pure	"	.40
Uranium—Oxide	"	2.25@3.00
Zinc—Metallic, ch. pure	"	.09@.10
Carbonate	"	.15
Chloride	"	.05
Dust	"	.06¼@.07
Sulphate	"	.02@.02¼

THE RARE ELEMENTS.

Prices given are at makers' works in Germany, unless otherwise noted.

	Cust. Meas.	Price.
Barium—Amalgam	grm.	$1.19
Electrol	"	5.71
Beryllium—Powder	"	5.95
Crystals	"	9.04
Nitrate (N Y.)	oz.	1.50
Boron—Amorphous, pure	grm.	.19
Crystals, pure	"	1.43
Nitrate (N. Y.)	lb.	1.50
Cadmium—Sticks	kg.	1.55
Sheets	"	2.83
Granulated	"	2.38
Powder	"	1.90
Calcium—Elect	grm.	4.28
Cerium—Fused	"	2.02
Nitrate (N. Y.)	oz.	1.25
Chromium—Fused, Elect.	kg.	5.95
Pure powder 95%	"	1.79
Chem. pure cryst	grm.	.20
Cobalt—(98@99%)	kg.	6.66@8.33
Pure	"	30.94
Didymium—Powd.	grm.	3.81
Fused, Elect.	"	5.47
Nitrate (N. Y.)	oz.	2.50
Erbium	grm.	3.09
Nitrate (N. Y.)	oz.	2.50
Germanium—Powder	grm.	33.32
Fused	"	35.70
Glucinum—Powder	"	5.95
Crystals	"	9.04
Nitrate (N. Y.)	oz.	2.75
Indium	grm.	3.57
Iridium—Fused	"	1.07
Powder	"	.95
Lanthanum—Powder	"	4.28
Electrol, in balls	"	9.04
Nitrate (N. Y.)	oz.	2.25
Lithium	grm.	2.38
Nitrate (N. Y.)	oz.	.60
Magnesium—Ingot	kg.	6.19
In wire or ribbon	"	9.99
Powdered	"	5.95@7.14
Sheet	"	9.04
Molybdenum—Fused	grm.	.15
Powder, 95%	kg.	2.62
Niobium	grm.	3.81
Osmium	"	.94
Palladium—Wire	"	.86
Sponge	"	62
Potassium—In balls	kg.	17.85
Rhodium	grm.	2.38
Rubidium—Pure	"	4.76
Ruthenium—Powder	"	2.38
Rutile—Crude	kg.	.43
Selenium—Com'l powder	"	26.28
Sublimed powder	"	35.70
Sticks	"	28.56
Silicium—Com'l	"	28.56
Chem. pure crystals	"	59.50
Amorphous	"	27.36
Sodium (N. Y.)	lb.	.65
Strontium—Electrol	grm.	6.19
Tantalium—Pure	"	3.57
Tellurium—Ch. p. sticks	kg.	107.00
Chem. pure powder	"	83.30
Thallium	"	26.18
Thorium—Nitrate 49@50% (N. Y.)	lb.	5.00
Titanium	kg.	47.60
Uranium	"	190.40
Nitrate (N. Y.)	oz.	.25
Wolfram—Fused, elect.	kg.	238.00
Powder, 95@98%	"	1.43
Chem. pure powder	"	6.43
Yttrium	grm.	3.33
Nitrate (N. Y.)	oz.	2.75
Zirconium—Com'l	kg.	119.00
Nitrate (N. Y.)	oz.	.75

NOTE.—These quotations are for wholesale lots in New York unless otherwise specified, and are generally subject to the usual trade discounts. This table is revised up to Feb. 16. Readers of the ENGINEERING AND MINING JOURNAL are requested to report any corrections needed, or to suggest additions which they may consider advisable. See also Market Reviews.